STATE OF CALIFORNIA
DEPARTMENT OF TECHNOLOGY
STATEWIDE TECHNOLOGY PROCUREMENT

STANDARD AGREEMENT AMENDMENT

TECH 213A (NEW 12/2018)

☒CHECK HERE IF ADDITIONAL PAGES ARE ATTACHED PAGES

AGREEMENT NUMBER	AMENDMENT NUMBER
20-10650	1
REGISTRATION NUMBER	

1. This Agreement is entered into between the Contracting Agency and Contractor named below:

CONTRACTING AGENCY NAME
California Department of Public Health

OptumInsight, Inc.,

2. The term of this Agreement is: Start Date: 02/24/2021 or upon approval, whichever is later
End Date: 02/24/2022

3. The maximum amount of this Agreement after this Amendment is: $41,016,093.00

4. The parties mutually agree to this amendment as follows. All actions noted below are by this reference made a part of the Agreement and incorporated herein:

1. A total of $25,723,990 has been added to this contract increasing the total amount from $15,292,103 to $41,016,093.
2. Exhibit 1 Statement of Work, is replaced in its entirety with the enclosed Exhibit 1, Statement of Work v2
3. Exhibit 3 Cost , is replaced in its entirety with the enclosed Exhibit 3, Cost v2

4. A total of 12 months has been added to the contract to change the contract end date from February 24, 2021 to February 24, 2022

All other terms and conditions remain the same.

IN WITNESS THEREOF, this Agreement has been executed by the parties hereto.

CONTRACTOR

CONTRACTOR NAME *(If other than an individual, state whether a corporation, partnership, etc.)*
OptumInsight Inc.

CONTRACTOR AUTHORIZED SIGNATURE
Paul Miller
Paul Miller (Mar 1, 2021 17:20 CST)

DATE SIGNED *(Do not type)*
Mar 1, 2021

PRINTED NAME AND TITLE OF PERSON SIGNING
Paul M. Miller, VP Finance

ADDRESS
11000 Optum Circle, Eden Prairie, MN 55305

STATE OF CALIFORNIA

CONTRACTING AGENCY NAME
California Department of Public Health

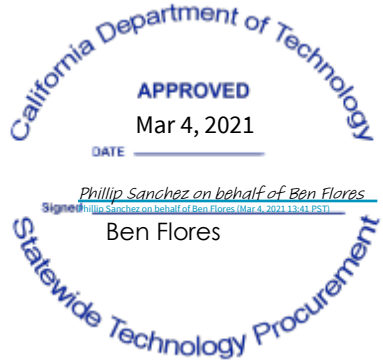
CONTRACTING AGENCY AUTHORIZED SIGNATURE
Timothy Bow
Timothy Bow (Mar 1, 2021 17:23 PST)

DATE SIGNED *(Do not type)*
Mar 1, 2021

PRINTED NAME AND TITLE OF PERSON SIGNING
Tim Bow, Procurement Officer – Emergency Operations

CONTRACTING AGENCY ADDRESS
1616 Capital Avenue, Sacramento, CA 95814

Department of Technology, Statewide Technology Procurement Use Only



☒ Exempt Per: Governor's Proclamation of a State of Emergency, effective March 4, 2020 (GC Sections 8625—8629)

California COVID Reporting System (CCRS)

State of California Department of Public Health CDPH

Statement of Work

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California COVID Reporting System (CCRS) STATEMENT OF WORK

The State of California Department of Public Health (CDPH), hereinafter referred to interchangeably as the “State”, has contracted with OptumInsight, Inc., hereinafter referred to as “Contractor”, for the goods and services described herein. The Contractor agrees to furnish the goods and perform the services as described in this Statement of Work for the duration of the Agreement.

1. INTRODUCTION

1.1. PURPOSE

This Statement of Work (SOW) defines the goods and services needed to design, develop, configure, implement and support the California COVID Reporting System (CCRS). The SOW also establishes the State’s and Contractor’s responsibilities for completing these tasks during the term of the Agreement. The Contractor shall adhere to and meet the requirements as set forth in this SOW.

1.2. BACKGROUND

Currently, CDPH collects California constituents' lab and case data from labs across the U.S. Labs are required to report positive and negative laboratory results. The majority of results are reported electronically through an HL7 SOAP API gateway and other formats including CSV via SFTP and API. The remaining results are reported manually (e.g. provider portal, fax, mail, etc.). COVID-19 lab results are matched with existing patient records and converted into cases within CalREDIE.

There are several challenges with the high volume and inconsistent quality of the data being collected:

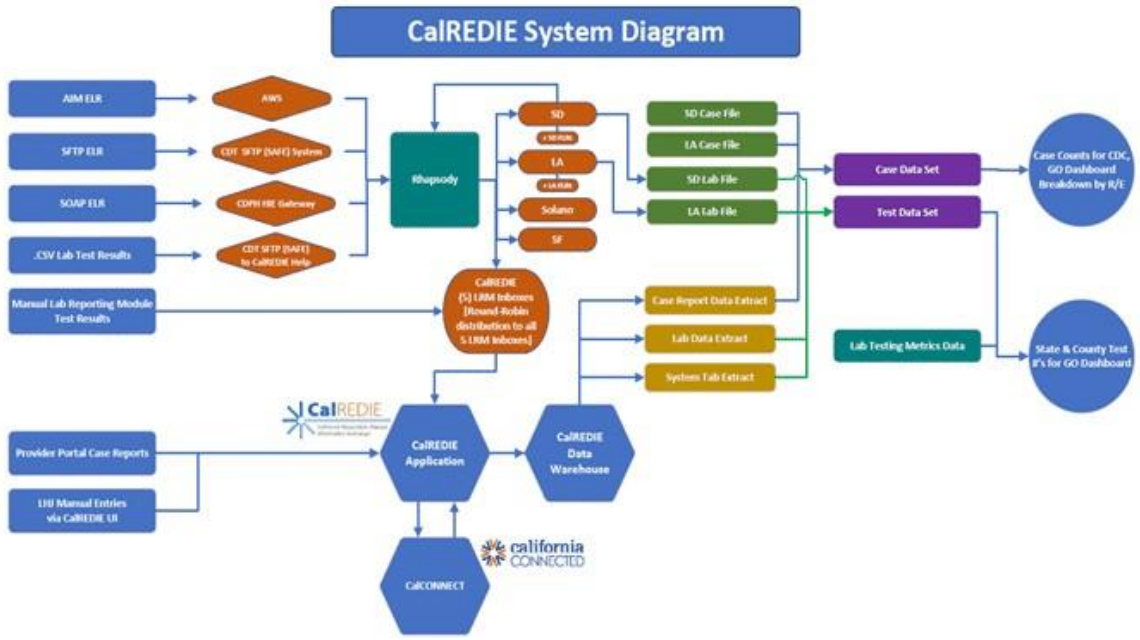
- Incomplete fields (demographic data, race, etc.)
- Duplicate reports from lab and case data
- Incorrect/incomplete information for accurate patient matching (name, address, DOB, gender)
- Inability to automatically reconcile multiple lab reports for the same individual into a single case

This results in:

- Delays in identifying positive COVID-19 cases
- Labor-intensive process to derive accurate case counts
- Labor-intensive process to reconcile duplicate case records
- Resending of lab reports creating duplicate reports
- Manual intervention to address data quality issues

1.2.1. Current Environment

1.2.1.1. Figure 1: Covid-19 Current CalRedie System Diagram



1.3. AGREEMENT TERM

The term of the Agreement shall begin on the date specified on the STD 213 cover page, the term of the Base Agreement for 6 months, with an estimated start date of August 25, 2020.

The State, with agreement by Contractor, may exercise its option to *execute* two (2), 6-month extensions to perform continued maintenance and operations support for CDPH the CCRS for a maximum Agreement term of 1.5 years. The State is not obligated to use any or all of these options. The Agreement is of no effect unless approved by CDT and no work shall begin before full execution of the Agreement.

1.4. AMENDMENT

The Agreement may be amended prior to the end of the Term, consistent with the terms and conditions of the Agreement, and by mutual consent of both parties, subject to approval by CDT-STP under Public Contract Code (PCC) section 6611. No Amendment or variation of the terms of this Agreement is valid unless made in writing, signed by both parties, and approved by CDT-STP as required. No oral understanding not incorporated, in writing, into the resulting Agreement is binding on any of the parties.

For any amendment entered into under this Agreement where the Contractor shall provide Services on a capacity basis, the parties shall apply the Resource Breakdown terms as described in Section 11 of this SOW.

1.5. WORK LOCATION

The Contractor's Key Staff are required to perform all services under` this SOW within the Continental United States.

For project-related activities not occurring at the CDPH Sacramento offices, the Contractor must provide the ability to interact with state staff via virtual tools including Zoom, WebEx or MS Teams. No tasks shall be performed offshore unless identified by the Contractor and approved by the State. Contractor must make staff available for meetings with the CDPH Sacramento office (via telephone or virtual tools) 8:00 a.m. to 5:00 p.m. PST/PDT during State Business Days. State Business Days are defined as Monday – Friday (8:00 AM – 5:00 PM) excluding State Holidays.

1.6. CONTRACT REPRESENTATIVES

All notices required by, or relating to, this Contract shall be in writing and shall be sent to the parties of the Contract at the address set below unless changed from time to time, in which event each party shall so notify the other in writing, and all such notices shall be deemed duly given if deposited, postage prepaid, in the United States mail or e-mailed and directed to the addresses then prevailing.

The Contract Representatives during the term of this Contract will be:

Table 1 Contract Representatives

Contract Representatives		
Entity	**State of California**	**OptumInsight**
Name	Estacio Karlo	Greg Franklin
Title	State Point of Contact	Client Relationship Executive
Address		100 Keller Circle, Folsom, CA 95630
Phone	916.552.2980	952-687-3228
E-mail	Karlo.estacio.@cdph.ca.gov	Gregory.franklin@optum.com
Name	Pamela Jarrett (Highlands – Lead PM)	Keith Gall
Title	Project Point of Contact	Regional General Manager
E-mail	Pamela.jarrett@cdph.ca.gov	Keith.gall@optum.com
Phone	916.990.4166	602.803.7932

2. SCOPE OF SERVICES

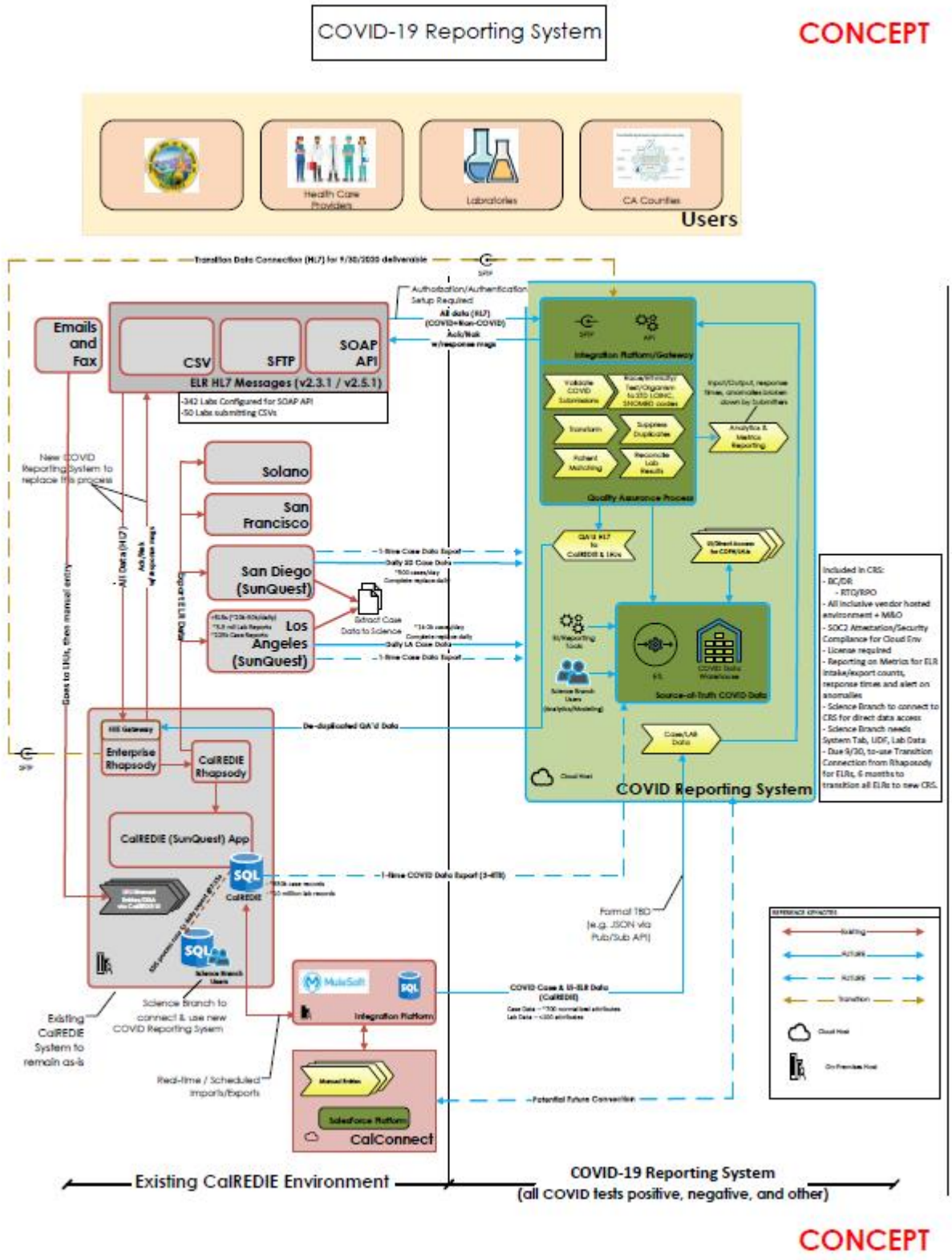
2.1. DESCRIPTION OF PROPOSED NEW SYSTEM OR SERVICE

The State envisions an automated solution to securely and accurately collect, store, analyze, and publish COVID-19 electronic lab reporting and case data throughout the state. Including the following items:

1. Improve overall efficiency and decrease time to collect, process, and publish actual, summarized, and aggregated COVID-19 lab and case data as permitted and appropriate
2. Improve the efficiency and accuracy of daily case counts
3. Ability to authenticate the identity of authorized labs
4. Ability to ingest data in various formats such as HL7, CSV, fax, mail
5. Ability to transform lab reports into a standard format
6. Ability to automate de-duplication of lab reports

7. Ability for manual and validated entry of lab and case results and exception handling
8. Ability to interface with existing and new systems utilizing different protocols
9. Improve automated patient matching capabilities to reduce manual intervention
10. Automate reconciliation of multiple lab results for an individual
11. Provide audit, traceability, and diagnostic capabilities for the solution
12. Migration and conversion of data
13. Improve the efficiency of data reporting and analytics capabilities to allow for flexibility for authorized federal, state and local health users
14. Role-based access to data and reports
15. Comply with PHI regulations when data is being shared publicly
16. Comply with applicable privacy, information and security requirements

2.1.1. Figure 2: Covid-19 Reporting System Concept of Operations Section



2.1.2. OBJECTIVE

The State intends to receive an end-to-end CCRS solution from the Contractor. The CCRS will act as the source-of-truth data system, containing and sharing all COVID related data (lab, demographics, case, incident and person data) to allow CDPH Science Branch and LHJs the ability to perform advanced analytics, modeling and reporting on COVID data. The CCRS will be a highly efficient, scalable, fault-tolerant system that intakes all of CA's COVID-related data from various sources/interfaces, providing data validation, normalization, deduplication and storage of all data into its repository. It is the Contractor's responsibility to provide all design, development effort, multi-factor access (authentication/authorization via local or federated user/system accounts), testing (security, performance, and stress), defect management, and training until full system implementation/system acceptance is achieved. In addition, the Contractor shall be responsible for supporting, securing, auditing, monitoring, scaling, maintaining, backing-up, restoring (if necessary), and operating all system components (including but not limited to environments, software, and required operations) for the duration of the contract period.

2.1.3. HOSTING ENVIRONMENT

The CCRS solution will be hosted on a combination of private and public cloud solutions. All hosting environments are in the Continental United States. The private Contractor Cloud environment is hosted in Contractor-owned data centers and meets the requirements for HiTRUST-certification levels of privacy and security. Commercial public cloud infrastructure is FedRAMP compliant.

Connection to the States system by the Contractor's solution will be in alignment with the State's Enterprise Architecture Framework (please refer to the California Enterprise Architecture Framework located at https://cdt.ca.gov/services/wp-content/uploads/sites/2/sites/2/2017/04/EA-California-Enterprise-Architecture-CEAF2-Framework-V2.pdf) [A1].
Contractor plans to transition components of the CCRS solution from the Contractor Private Cloud to a Commercial Cloud (Azure) aligned with the requirements defined in this Statement of Work.

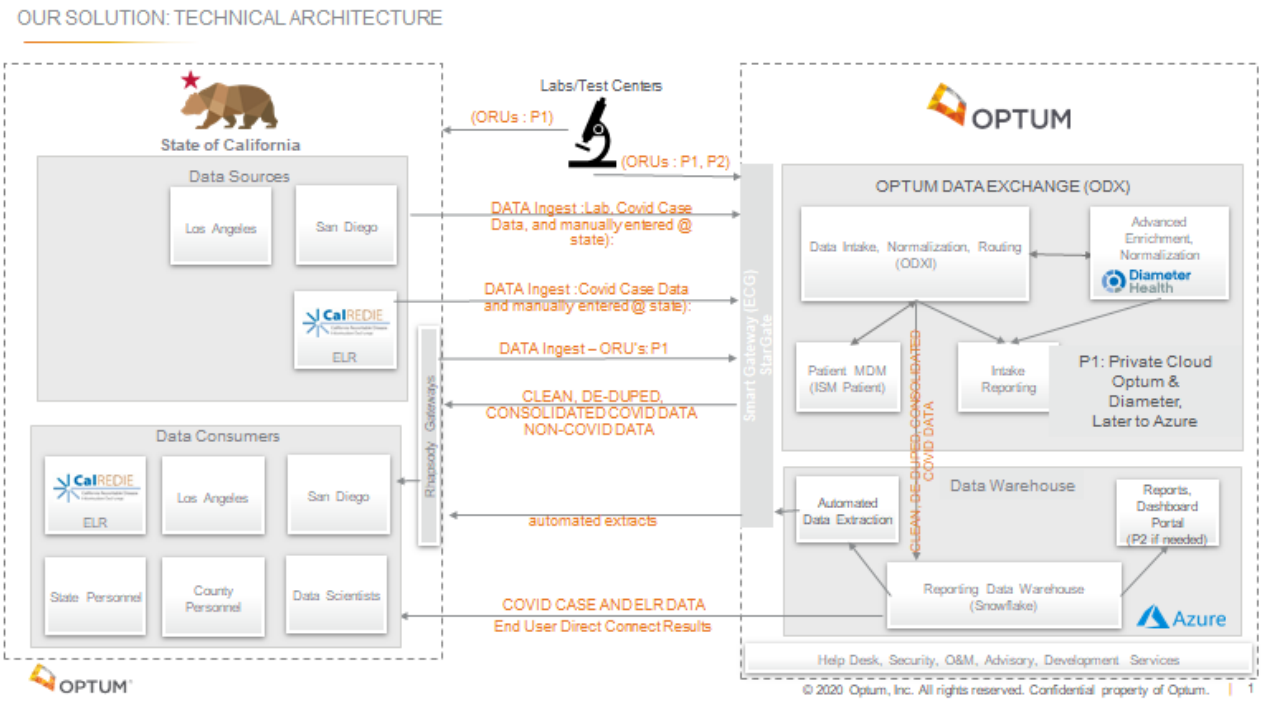
2.1.4. IMPLEMENTATION

The Contractor shall use an industry-standard agile style sprint Software

Development Life Cycle (SDLC) approach to develop the CCRS. We anticipate that the Contractor's solution will include the following segregated attributes:

1. Interfaces
2. Data Preparation
3. Data Storage and Compute
4. Access Control
5. Data Provisioning
6. Connectors
7. Reporting
8. Training and Organization Management
9. Maintenance and Support

The following high-level conceptual architecture diagram represents the major solution components of the Contractor-provided CCRS.



The workflow expected generally follows from top to bottom of the figure above.

During Phase 1 of the project (from Contract Start Date to September 30, 2020):

- The 392 existing labs and test centers currently submitting to CDPH will continue to submit data through the existing process
- CDPH will forward the lab data and COVID case data to Contractor's Smart Gateway, a batch file handling secure gateway, and Contractor's Stargate API

gateway for non-batch.

- HL7 2.5.1 ORU message types are expected, where available, and an agreed upon controlled comma separated values (CSV) format when HL7 data format is not available.
- The CSV format will also be used for COVID case data feeds, manually entered lab data, and historical data intake.
- Contractor Data Exchange (ODX) will accept and process these data feeds. Specific processing activities are described below.
- ODX will intake the ELR data, including non-COVID results, and transfer to the Contractor's Diameter Health partner to provide additional specialized, advanced enrichment and normalization and reporting on the data.
- Once the data intake process has completed successfully, a non-COVID feed of data will be returned to the CDPH Rhapsody Gateway.
- COVID-related data will be forwarded to CDPH via gateways, and to the Contractor-provided Data Warehouse.
- Intake reporting and data quality feedback will be available for review.
- The Data Warehouse loads data as they are received into a data schema like CDPH's current warehouse schema.
- Automated data extractions can be designed and made available through the ECG gateway unless agreed upon during design to push directly to the CDPH gateway.
- End users will connect to the Data Warehouse using standard Snowflake access controls.
- A CDPH-branded Data Dashboard will be deployed for use by CDPH staff and Contractor's support services. This is the data quality assessment tool to scorecard the completeness and syntax of the data at the data source level.
- Additional reports/dashboards can be made available after Phase 1, if desired by CDPH as mutually agreed for delivery.
- Support services will be provided based upon details provided in this Statement of Work.

2.1.5. INTERFACES

The CCRS solution will interface with other State data systems or sources. The contractor's approach must be flexible enough to anticipate a variety of interfaces to a variety of backend systems, such as but not limited to SFTP, ODBC/JDBC,-SDKs (software development kits), ESBs (Enterprise Service Bus), and/or Application Programming Interfaces (API) through the HTTPS, VPN

and/or Dedicated Direct Connections.

The Contractor's solution must be scalable and based and grounded in prior implementation. We expect the contractor to rely on broadly used tools designed for this purpose.

- As part of the services, Contractor will implement up to 392 direct connections to support the delivery of the described solution. If additional interfaces needed, both parties will work together in good faith to address such request through the Work Order Authorization (WOA) process. The cost of the additional interface beyond 392 direct connections will be based on Tiered pricing per interface fee list on Costing sheet.
- The Interface tiering is based on cumulative interfaces created

2.1.6. DESCRIPTION OF THE SERVICES

This agreement is a services-based contract and includes certain deliverables. In addition, Tiered pricing applies to: additional daily volume transaction; additional direct connect interface; additional Storage capacity, (lab outreach) and additional compute usage.

Resources will be redistributed amongst all work streams where addressing concerns and issues are necessary without additional cost to the state.

Contractor will perform the following Services for Customer, which will be deemed to be "Services" under this SOW:

- Contractor will implement up to 392 direct connections to support the delivery of the described solution. Additional interfaces will be managed through the WOA process.
- Contractor will provide interface connectivity to support transmission of messages. Connectivity options will include Contractor Enterprise Gateway ECG (sFTP), MLLP over B2B VPN, and Application Programming Interfaces (API).
- Mapping of data for ODX and Diameter consumption with data source coming from 392 data suppliers. This includes direct interfaces and data acquisition. The 392 direct connections can be redirected to data providers during the life of this agreement at no additional cost.
- Contractor, partnering with Diameter Health, will normalize and enhance the lab data. Normalization process will includes initial HL7v2 message specification validation, normalization of messages into standard HL7v2 2.5.1 ORU format, completeness and syntax provide a CDPH-branded Data Dashboard to provide quality reporting on data submissions, and export of normalized, standardized

data to Data Warehouse for additional processing.

- Contractor will match and de-duplicate patient identity, persisting Enterprise Master Patient Identifier (eMPI) for each unique patient.
- Contractor will enable data monitoring tools to monitor data submission, quantity and frequency, connection up-time all in support of maintaining near-real time message processing.
- Contractor retains all ownership of the interface design and configuration created under this SOW, including all rights to use and distribute similar interfaces to Customer's system created under this SOW in its provision of Services to Customer even if such Services are provided under a separate written agreement between Contractor and Customer.

Delivery : Contractor will:

- Provide its standard HL7 specifications to Customer.
- Provide necessary interface connectivity documentation to Customer.
- Request project resources.
- Review interface testing plan.
- Host technical kickoff call for interface integration.
- Provide initial analysis of format and data readiness.
- Collaborate with Customer on data provider volumes and prioritization.
- Add specificity and detail to tentative timelines.
- Design: Determine interface build components.
- Integrate: Deploy initial settings, build, and unit test.
- Validate:
    - Validate connectivity and data transmission between endpoints
    - Execute test plan
    - Functional testing
    - End-to-end system testing
- Promotion to Production: Deploy completed and approved interfaces into production and coordinate interface go-lives.
- Transition: Transition interface from implementation to support teams following go-live warranty period.
- Deploy the CDPH-branded Data Dashboard to production

Execution of Outreach: Contractor is prepared to support State's current Lab Outreach program. Contractor will provide three resources to work with the State for a four-month period to support prioritization planning and support lab data provider outreach (all three resources full time for four months. In addition, Contractor is prepared to provide additional support. The parties will work together in good faith to address such request through the Work

Order Authorization (WOA) process.

Out of Scope: Any items not set forth in the Description of the Services.

Assumptions: The following assumptions and constraints have been identified and agreed to by both Contractor and Customer. If any of these assumptions prove to be incorrect or no longer accurate, the parties will agree on appropriate changes to this SOW and potential resulting fees. Assumptions are applicable to Phases 1 and 2.

- Contractor will provide connectivity to support transmission of HL7v2 ORU and CSV messages over Contractor Enterprise Gateway ECG (sFTP), MLLP over B2B VPN, and Application Programming Interfaces (API).Customer acknowledges faxes and PDF files will continue to use existing workflows with manual entry of data into Customer tools and submission of Cases and associated Lab information in CSV file format to CCRS for ingestion.
- ODX architecture can support current and future California data volumes associated with the project.
- Customer will ensure that data providers and third-party software vendors supporting data providers will provide Contractor with all cooperation, data, information, documentation, and any other materials reasonably required by Contractor to deliver the Services.
- Customer has deliverables that are dependencies for Contractor resources to meet timelines and deliverables.
- All interface implementation services will be provided remotely and during regular business hours.
- The 392 direct connections can be directed to data providers during the life of this agreement at no additional cost.
- Transition to operations and maintenance support for each interface will occur two weeks after the interface(s) have been moved into the production environment.
- Contractor may use offshore resources to support the rapid development of interfaces understanding that no State data will be used or accessed by offshore resources.
- Contractor can support multi-factor authentication for direct lab submission subject to each direct submitter’s ability to support that capability.

Timeline: The following is the estimated timeline for delivering the Services**.**

The Contractor Proposed Project Plan shall be incorporated into this SOW and shall supplement references for timeline, work streams, tasks and Phase deliverables.

- Once started, data integration services are estimated to take approximately

ten (10) to twelve (12) weeks managing the following milestones:

- Phase Summary:
    - Phase 1 (Contract Start Date to September 30, 2020): Large single connection from existing CDPH data aggregation to Contractor, and all 392 direct connections. The transfer of the historical data load.
    - Phase 2 (Post Phase 1): Existing data connections identified by the state for direct interface can be redirected (when & where). M&O on ODX, Data Warehouse, providing data quality management, outreach, & Training.

- Phase 1:
    - Historical Data Migration
        - Lab Data (source: Client Enterprise Rhapsody,)
            - Client will provide up to (30) days historical HL7 messages to Contractor
            - Client may also provide historical lab data through sFTP connection if necessary
            - During Phase 1, Contractor will use historical lab data in the rapid build of interfaces, pre-population of eMPI, and tuning of data normalization and data enhancement features.
            - Historical lab data will only be used for pre-populating eMPI with associated patients but will not be used for persisting clinical lab data.
        - Case Data (source: Client Data Warehouse)
            - Contractor will work with Client to establish robust connection from existing Client Warehouse to new CCRS warehouse capable of supporting data volumes of the 8GB range.
            - Client will provide contractor with historical Case and associated lab data
            - Contractor will use historical case data to populate new CCRS Data Warehouse.
        - Early and Advanced Data Quality Tuning (Diameter Health)
            - A CDPH-branded Data Dashboard will be deployed to provide a data quality assessment tool to measure the completeness and syntax of the lab data flowing through the system.
    - Production Lab Data (Source: Client Enterprise Rhapsody and Data Providers)
        - During Phase 1, Client and Contractor will establish

connection between Client Rhapsody Enterprise engine and Contractor ODX to support the transmission of messages.

- Client will send to Contractor Lab messages received from existing 392 providers. Formats of messages may include both HL7v2 ORU standard and .csv formats.
- In addition, to aggregated interface of 392 data providers, contractor will Map data for ODX and Diameter consumption with data source coming from Rhapsody.
- Contractor will establish direct (Data Provider to Contractor) interface connections for up to 392 data providers. With State's collaboration on Phase 2, the schedule and prioritization will be identified on redirecting the direct interface connections.
- Contractor will create interfaces necessary to identify, normalize and enhance lab data.
- Contractor will build and unit test.
- Contractor will facilitate User Acceptance Activities (UAT) to support formal acceptance of workflows and data quality
- Contractor will provide training on user interface data quality tools.
- Contractor will provide normalized lab data output to downstream recipients in support of described workflows.

- Phase 2:
    - Production Lab Data (Source: Data Providers)
        - During Phase 2, Contractor will redirect 392 direct interface connections identified by the state (when & where)
        - Contractor will create interfaces necessary to identify, normalize and enhance lab data.
        - Contractor will build and unit test.
        - Continued access to the CDPH-branded Data Dashboard.
        - Contractor will provide normalized lab data output to downstream recipients in support of described workflows.
    - In reference to Costing Sheet row 10: both parties will work together in good faith to address the schedule to redirect the 392 data providers and will be available during the life of the contract via mutually agreed upon work order authorization (WOA) process.

The cost of the professional services (inclusive of all necessary fees) will be based on grand total cost listed on row 10 of the Costing sheet.

2.1.7. DATA PREPARATION

The Contractor approaches data preparation in a way that is ongoing, automated wherever feasible, scalable, and auditable. The Contractor's preparation approach must be flexible and extensible to future data sources as well, including State datasets and systems.

For the CCRS, data preparation will consist of the following at a minimum:

1. The ability to perform data matching, deduplication, cleaning, and other needed data processing across both current datasets and future State datasets for identified data.
2. Reports that monitor ongoing data preparation processes, including, for example, the success of data matching, de-duplication, and more (e.g., metadata).
3. Workflow for onboarding new datasets into the existing data preparation process.
4. Data preparation activities apply to both Phase 1 and Phase 2.
5. Volume Transaction fee is included as part of the monthly ODX and Diameter transaction fee up to 150,000 message per day. (please see Costing sheet line #15).
6. In excess of the 150,000 messages per day, additional Tiered pricing transaction fee applies and is available on the CA Costing sheet. The additional Transaction per day Fee is based on the:
    - Low and High message volume will be based off of average daily transaction for month.
    - Tier pricing does not apply to Phase 1 historical data conversion.
7. In excess of 150,000 messages per day, Contractor will calculate the average daily transaction for the month and will provide a Work Order Authorization (WOA) document reporting the daily excess messages. CDPH will review the excess messages report and the associated tiered pricing. Approval of the excess message report will be provided through WAD by CDPH and will be used by Contractor for invoicing.

2.1.8. DATA STORAGE AND COMPUTE

The Contractor's approach must segment data preparation and the subsequent storage of data. It is desired that the approaches separate storage and compute and allow for scalable consumption including transparent pricing models for concurrent use.

For the Data Warehouse component of the CCRS, Contractor will support the following:

- Instance Implementation
    - Stand up a Snowflake instance for this contract in the Azure U.S. data center West location environment as a stand-alone configuration that can be transferred to CDPH in the future
    - Enable Snowflake security measures –including transport and at rest encryption
- User Security
    - Federate authentication to use the State's SSO solution if CDPH Security Operations staff members can provide the needed support level in Phase 1 to coordinate with Contractor's implementation team, otherwise fall back to either Contractor ID or local security during Phase 1 and implement the State's SSO in a later phase
    - Enable Contractor's support users to authenticate into system for O&M purposes per contract
    - Enable internal ability to manage user access by defining and creating user roles defined to control data views at the LHJ level
    - Enable table, column, and row level security (RBAC), create secure views to enable RBAC
    - Enable authorized external to the instance connection
- Data Usage Implementation
    - Develop and deploy scripts to load data into warehouse (table by table prepped data sets)
    - Complete the internal stage and Snow pipe configurations
    - Create database objects
    - Migrate existing CalREDIE data to the environment
    - Initial load
    - Develop/Automate scripts/pre-defined views to make available to consumers
- Testing
    - Verify the ability to run Scala, SAS, and R tools on Snowflake

- System Testing to verify function as designed
- End-to-End Integration and UAT testing

- Training
  - Provide hands on training on setting up tools and connectivity
- Support and Monitoring
  - Provide comprehensive tools on environmental health
  - Monitor and report utilization (i.e., dashboard)
  - Provide on shore help desk with 24/7 support on premise for Priority 1 incidents; help desk team is coordinated through the centralized help desk described in this Statement of Work

2.1.9. ACCESS CONTROL

The Contractor's solution must provide for robust access control and auditing. We anticipate the following:

- Access control will need to apply to both tables and records, as well as any derived views.
- Contributing organizations will need access to their own data, e.g. by source
- Role-based access control will be based on both groups of users as well as organizations

It is desired that the approaches are scalable, do not have an overly complex access control, and are audited in an automated fashion.
Access Control requirements are applicable to both Phase 1 and Phase 2.
Contractor will provide the ability for State users to use their existing credentials for the CCRS Data Warehouse. Accomplishing this requires close work with CDPH security operational staff to successfully complete one-way federation/sync and possibly the entry of role groups (depending on detail ed requirements of the State still to be determined) and entry of users to the role groups for the DW capability so those logons are available to it during logon attempts.

Further, CDPH wants to base access to data on roles with the ability of the State to control which logons are in which role.

The State Identity and Access Management operational security services must be immediately available, and State resources available to work with the Contractor to provision the required interfaces and authorizations. This is necessary due to the limited time available for the development and testing required. If this availability and

priority cannot be provided during the first week of the Contract and throughout the implementation period, Contractor can provide an alternate option to reduce risk to delivery schedule by starting with the role-based security provided by the CCRS Data Warehouse for Phase 1. Integrated security will be completed at a later date agreed upon by the State and the Contractor. For either option CDPH would still need to provide business and or technical staff to determine the roles and allowed role accesses required during weeks 1 and 2, and as needed to identify user logons and user assignments to these roles and confirm intent during acceptance testing.

2.1.10. Data Provisioning

The Contractor shall develop a means for provisioning access to unprocessed and processed datasets, segments of datasets, and derived views in conjunction with robust access control and auditing.

The Contractor shall design and develop a workflow and interface for browsing, requesting, and provisioning access. The State is interested in tools that allow for self-service provisioning that can be used by the stewards of their respective datasets.
State is responsible for reviewing and approving all access requests for State or county users, including provisioning and de-provisioning access.

Data provisioning requirements are applicable to both Phase 1 and Phase 2.

2.1.11. CONNECTORS

Access to datasets must be flexible and anticipate a range of consumption tools and connectors, from BI and data science tools to query (SQL), API, and programmatic connectors and interfaces.
Connector requirements are applicable to both Phase 1 and Phase 2.

2.1.12. REPORTING

The Contractor shall be responsible for developing reports consistent with CCRS requirements. It is envisioned that the contract will include a set number of hours for the Contractor to develop, test, and implement the custom reports to meet the State’s requirements for reporting. Contractor is assuming the objective of these reports are to inform and monitor the data integrity of the case and lab processing data and frequency, as well as including addressing the overall quality of the data to support

decision support for local health jurisdictions and CDPH's data scientists. Data integrity will be ensured through a rigorous data management process to track, monitor and reconcile lab data and reporting frequency, as well as close collaboration and regular communication with key CDPH and other stakeholders.

In addition, the State requires flexibility for future reporting, and as such the Contractor's CCRS Data Warehouse will support access by State-licensed reporting tools. Additional reporting tools and resources required by the State will be addressed using the WOA process.

Operational intake process reporting will be available as described in the Intake Processing Section above as part of the Phase 1 delivery and reflects real-time monitoring of the intake process. Additionally, Contractor will create and deliver management dashboards and reports that will be provided on a daily basis. This consists of a dashboard that reports on the process flow of data to Contractor's system, through the system, and back to CDPH. This information will track such items as; the number of files received, number of lab results received, positive, negative, and unrelated to COVID lab results. This will ensure data counts and integrity are maintained and reported correctly. Monitoring reporting will be created to detect late data receipt and unexpected content in data (such as unexpected file size, unexpected ratios in data content, unexpected duplicate data counts). In addition to this activity, the following actions will take place and be reviewed with CDPH with mutually agreed-upon information to be included in the management dashboard reports. These assessments will be performed to both historically reported case data and emerging case and lab data:

- Assess current COVID-19 case data reporting and analytics processes
- Develop baseline metrics to track and monitor COVID case metrics by various cohort segments and key attributes
- Perform comparative analysis to baseline and other expected to actual metrics to determine reliability and completeness of data, including an assessment of any known or newly discovered historical discrepancies in information
- Evaluate and monitor normalized lab and associated case data for reporting accuracy, emerging trends
- Develop performance dashboards to identify invalid, suspicious or defective data. Dashboards will include key metrics that are relied upon by Local Health Jurisdictions, CDPH data scientist and other key stakeholders, potential examples include:

- 7- and 14-day rolling averages of new cases
- Percent of cases reporting positive from total tested, tracked daily and reported over time
- Comparison of other publicly reported data such as COVID hospitalizations and death to identify possibly areas of cases being underreported
- Analysis of lab reporting times, such as time between test taken and results reported

- Case counts tracked by key attributes such as age, sex, gender, ethnicity, and other available metrics.
- Identify, document and communicate significant deviations within these reports to agreed-upon CDPH stakeholders
- Identify, communicate and collaborate with CDPH the data remediation strategy and take agreed-upon actions

Optional analytical reporting, including the development and implementation of a user interface with business intelligence functionality for reporting, can be implemented after Phase 1, when requested by CDPH and scheduled according to agreement between CDPH and Contractor. This work will include setting up the tooling and security interfaces required to support the report creation and delivery. This optional reporting, if desired, would be provided through the WOA process.

2.1.13. TRAINING AND ORGANIZATIONAL CHANGE MANAGEMENT

The Contractor shall be responsible for providing plans and delivering required training to internal trainers (train-the-trainer) as well as for providing organizational change management based on the contractor's implementation approach.

It will be important to have a hybrid approach between the Contractor and the CDPH to actively collaborate for the development and delivery of the organizational change management, knowledge transfer, and a training program based on industry-proven methodologies that will satisfy all the needs of the CDPH.

The Contractor will provide these services through full system implementation with follow-on support work through the first year of the contract.

In collaboration with the State, Contractor will:

- Provide training strategy oversight and governance
- Lead Training Plan creation and content development

- Use virtual training platforms to support end-user training
- Hand over training plan and foundational content to CDPH

Training Strategy:

- Establish defined work groups for deployment, communications, and training activities
- Identify potential trainers and super users with input from the State
- Collaborate with CDPH leadership for training deployment approach (e.g., pilot, phased rollout, big bang)

Training Plan and Content Development:

- Collaborate with work groups to identify organizational training practices
- Identify internal infrastructural requirements for training support (virtual, hardware, LMS processes)
- Develop communications plan for comprehensive messaging to end-users
- Develop initial training curriculum including training guide, tip sheets, and FAQs

Virtual Training:

- Contractor will determine technical location for training/demos to be conducted
- Facilitation of multi-series training workshop to support end-user understanding of reporting platforms

The State will:

- Provide appropriate staffing ratios for site specific training and logistics plan

Execution of Training, the parties will work together in good faith to address such request through the Work Order Authorization (WOA) process.

2.1.14. MAINTENANCE AND SUPPORT

The Contractor shall be responsible for performing system maintenance and operation services. Maintenance and Support services begin in Phase 2 of the project and continue as each additional interface is moved to production.

The Contractor's CCRS solution includes end-user support in line with CDPH's critical business classification for these systems and their business functions. Contractor has included their Commercial Help Desk for user support via phone and email. The Help Desk serves the Level 1 role of addressing concerns as possible upon first contact. Calls that require application expertise or go deeper into data concerns will be routed to Level 2 support which can address application and function-level needs according to agreed-upon Service Level Requirements.

Contractor follows Information Technology Infrastructure Library (ITIL) practices and resolves customer issues using a tiered service model:

- Level 1: Frontline support/basic support (minor issues) – These issues are simple and can be resolved quickly with first call resolution. Examples include password resets, general inquiries, and information requests.
- Level 2: Specialized/moderate technical support – These issues are moderately complex and require specialized support to troubleshoot. Examples include data fixes, navigation, and application/database issues.
- Level 3: Technical/integration support – These issues are complex in nature and require specialized knowledge to repair. Given the complexity of these issues, subject matter experts from the product team are engaged to provide authoritative responses on a timely basis. Examples include architecture related issues, code related issues, and complex application or system functional issues.

Root cause analyses is performed on Level 3 tickets and all those escalated to the Contractor by the State. When an issue is identified, analysts start a war room bridge and page the necessary resources to investigate.

Issues reported to the Help Desk are assigned priorities based on the severity of the call. Contractor will use the following approach to assigning issue priorities:

- Priority Level 1 (P1) means an Incident that severely impacts or has the potential to severely impact mission critical business operations or has high visibility to external customers. Incidents characterized by the following attributes:
    - Loss of a business critical CCRS such as a System, Service, software, Equipment, network component or facility making the CCRS:
        - Not Available
        - Substantially Unavailable or
        - Seriously impacting normal business operations
    - Affects a group or groups of people performing a critical business function
- Priority Level 2 (P2) means an Incident that significantly impacts or has the potential to significantly impact mission critical business operations or has moderate visibility to external customers. Incidents characterized by the following attributes:
    - Does not render a CCRS such as a System, Service, software,

Equipment, network component or facility unavailable or substantially unavailable, but a function or functions are:

- Not Available
- Substantially unavailable or not functioning as they should, in each case prohibiting the execution of productive work

- Affect either a group or groups of people performing a critical business function.

- Priority Level 3 (P3) means an Incident that impacts a non-critical system or component of a Managed Application for a limited number of Users, or that impacts the ability of one or a limited number of Users to perform their primary function.
- Priority Level 4 (P4) means an Incident that impacts a single User's ability to perform his or her job function.

2.2. CONTRACTOR RESPONSIBILITIES

The Contractor shall design, develop, configure, test, implement, and maintain the CCRS during the CCRS contract period. During the performance of this contract, the Contractor shall provide services in the following areas:

1. CCRS System Design – Services and design documentation to complete the CCRS Architecture and General System Design, CCRS Requirements Management, the CCRS Detailed Design.
2. CCRS System Development – Services which provide for the implementation of a Software as a Service (SaaS) Software Installation Base System deliverable.
3. CCRS System Configuration – Services to configure the CCRS Base System Software to achieve State user required functionality and the Configuration of Base System Software deliverable.
4. CCRS Data – Services to include data processing and storage, including cleaning, organizing, deduplicating, matching the data and data modeling.
5. CCRS Testing – Services to plan and conduct CCRS end-to-end testing activities during implementation and on-going services to ensure system functionality is available and accepted by users.
6. CCRS Change Control and Management—Services to include a clearly defined process to submit, review, approve and schedule requests. The focus of this process will ensure that changes to the IT environment are carefully considered and reviewed to minimize impact on users and

existing integrated services.

7. System Release into Production – Services to plan for the management of system release during the system development lifecycle and into production.
8. CCRS Implementation – Services to plan for training/knowledge transfer and organizational change management. Services to implement plans to train CCRS users and deploy the CCRS for broad use.
9. CCRS Maintenance and Operations – Services required to maintain CCRS at contracted Service Level Agreement (SLA) levels and provide for ongoing updates of CCRS to meet State needs.
10. CCRS Transition – Services to plan for the transfer of CCRS knowledge to the State staff to support CCRS users. Services to transfer Contractor CCRS knowledge to State staff selected to assume the roles and responsibilities for CCRS maintenance and operations. State will notify Contractor of the decision to transition services within 90 calendar days of the end of the contract term. Contractor will work with the State to develop a Transition Plan to document all data and solution elements that can transfer to the State and the plan to accomplish that transfer.

2.2.1. CONTRACTOR SERVICES

The Contractor is responsible for providing, software, design, development, configuration, testing, and implementation services, as stated in the Agreement. In addition, the Contractor shall be responsible for supporting all Contractor-provided System components (including but not limited to environments, software, and required operations) through the Base Agreement Period and any Mandatory Optional Extension exercised by the State. The Contractor responsibilities shall include the following:

The Contractor will:

1. Provide all detailed deliverables and, where appropriate, use the current CDPH standard software (e.g. MS Office, MS Visio, and MS Project).
2. Provide project artifacts such as but not limited to User stories, product backlog, sprint backlog etc.
3. Conduct Daily Scrum which should include key contractor staff and state staff.
4. Provide staff resource(s) with appropriate skills to complete each task successfully, within schedule and budget.
5. Have the required resources available during the timeframe of the Contract.

6. Be accountable for tasks, artifacts, deliverables, and timelines identified in the SOW.
7. Participate in virtual CDPH meetings and briefings, as reasonably required.
8. Work with CDPH to identify Key Stakeholders and Subject Matter Experts.
9. Review, clarify, and validate all CDPH stated requirements.
10. Comply with all applicable CDPH and State policies and procedures including, but not limited to, State project management guidelines as provided to Contactor, where Contractor has opportunity to review and assess if any new or revised have an impact to scope, schedule or price.
11. Provide all required documentation regarding system application configuration and/or customization, implementation, and operations as defined in this SOW.
12. Organize and facilitate requirement sessions and confirm the quality of the requirements that are captured and documented.
13. Ensure project implementation and system configuration activities are consistent with industry best practices, guidelines, and standards.
14. Identify, document, and report issues and risks to the CDPH Project Manager and resolve assigned issues and risks.
15. Submit deliverables to the CDPH Project Manager to review for completeness and accuracy, ensuring that each deliverable achieves CDPH approval and acceptance in accordance to mutually agreed upon acceptance criteria.
16. Develop and provide ad hoc reports as deemed appropriate and necessary by the CDPH and agreed to by Contractor.
17. Manage the testing process and ensure that all issues are documented and resolved per the Testing Plan.
18. Have assigned personnel to perform tasks remotely or at Contractor's site and be available to work onsite at the Sacramento facilities if COVID restrictions are lifted or social distancing is utilized unless formal permission from the CDPH Program Director to deviate is granted.
19. Provide all necessary equipment and materials to complete their scope of work, including but not limited to cellular telephones and computers or laptops to its employees at the Contractor's expense.
20. Have all assigned personnel agree and adhere to the State Information Technology security policies, standards, and guidelines.
21. Supply Contractor personnel all software needed by Contractor personnel. All software to be loaded onto State-provided computers must be approved

in writing by the State.

22. Produce and deliver the Contractor Deliverables specified in the approved project work plan.
23. Implement a CCRS System that meets the requirements defined in this Statement of Work in accordance with all applicable federal and State laws, and State-specified business rules.
24. Cooperate with any third-party contracted by the State to provide additional Project support or oversight services.
25. Perform the services required under this Agreement in a manner that will not disrupt the operational needs of the State.
26. Return all State property, including security badges and State-provided computers, prior to termination of the Agreement.
27. Provide Help Desk Tiers 1, 2, and 3 support for the production CCRS System.

2.3. STATE RESPONSIBILITIES

The State responsibilities include the following:

1. Should Local (County), State and/or Federal guidance on COVID-19 change and the CDPH CCRS Project Manager deem necessary, provide appropriate facilities and equipment for the appropriate number of contractor key staff as needed bythe state, including workspace consisting of desk space and a chair, and access to shared printers, scanners, and copiers. Conference rooms will be available throughout the building and can be utilized by Contractor personnel.
2. Provide access to applicable information, including but not limited to technical, program, and policy documentation, and ensure access to necessary personnel.
3. Manage the State's master project schedule.
4. Plan, conduct and evaluate User Acceptance Testing (UAT), with Contractor support, in accordance with the State-approved Contractor Deliverables.
5. Provide web-based training or training facilities for internal user training and knowledge transfer training (see Contractors' Library) should Cal-HR guidance on COVID-19 change.
6. Provide State personnel the time to attend CCRS System Training as documented in the State-approved Contractor Deliverables.
7. Ensure appropriate resources are available to perform assigned

tasks, attend meetings, and answer questions.

8. Participate in appropriate presentations and formal Project meetings.
9. Participate in appropriate informal meetings at Contractor request,
10. Prioritize applicable problems and issues for resolution.
11. Certify when the Contractor has met key Project Milestone Entry, Exit, and Acceptance Criteria.
12. Review and provide feedback on and approve all Contractor Deliverables in accordance with the Deliverable Management Plan, a component of the Master Project Management Plan.
13. Establish and manage Independent Verification and Validation (IV&V) services on the CCRS Project.
14. Coordinate the CDT Independent Project Oversight Consultant activities on the CCRS Project.
15. Provide program/policy personnel to support Contractor-provided trainers during formal classroom training for Internal Users.
16. Act as the point of contact to coordinate and manage all external agency participation consistent with CCRS Requirements.
17. Perform State responsibilities documented in State-approved Contractor Deliverables.

- Escalating decisions, issues, and risks as needed to achieve resolution.
- Identifying and reviewing project related issues, evaluating mitigation strategies, evaluating action plans, etc.
- Approving all deliverables and subsequent invoices, having signing authority on change requests as well as decision authority over changes that impact the project budget or that substantially alter any of the required functionality in the project.
- Managing the internal components of the Organizational Change Management process and providing a lead contact for CDPH staff impacted by the new system.
- All project management related activities.
- Managing all aspects and phases of the project including, but not limited to project plan execution, integrated change control, scope/ schedule/cost management, human resources, risk/issue management, and project communications.
- Planning, guiding and overseeing the day-to-day project management activities, developing and managing the project schedule, and developing and ensuring other project work plans are

completed.

- Ensuring that other Stakeholders have opportunities to provide advice regarding pending decisions.
- Provide Local and remote access to defined Contractor staff as needed.
- Provide Building access during normal business hours Monday through Friday (7:00 am to 5:00 pm) or as defined and approved by the CDPH Program Director.
- Provide state security operations, business and IT personnel needed to implement connections, data sharing and other services required to successfully implement within the required timeframe.

2.3.1. Table 2.1: State Roles and Responsibilities

Project Team Role	Responsibility
1. Project Sponsor	• Ultimate responsibility for overseeing project governance. • Make decisions on scope, schedule, or budget changes when these elements change beyond 5% of the baseline. • Chair of the Executive Steering Committee (ESC). • Provide executive management sponsorship and support for the project • Assume project ownership of CCRS upon Final System Acceptance • Provides highest level of project review, policy leadership, and oversight, as needed • Serve as key business decision-maker of the project and provide decision-making authority • Establish project goals and priorities • Resolve issues and scope changes that cannot be resolved by project director • Support project funding and resources • Review and approve significant changes to project scope, budget, or schedule • Mediate issue resolution

Project Team Role	Responsibility
2. Project Director	• Make decisions on scope, schedule, or budget changes when these elements changes are within 5% of the baseline. • Ensure that external governing entities are properly consulted and engaged to provide timely approval of changes where required. • Ensure that decision items are properly analyzed before presenting them for decision. • Ensure that Stakeholders who need to provide advice about decisions have an opportunity for meaningful input. • Monitor risks and issues to make sure that matters are appropriately referred for a decision on a timely basis. • Ensure overall success of project • Provide a centralized structure to coordinate and manage the project, staff resources, teams, activities, and communication structured project management methodologies • Direct activities of state and contractor personnel assigned to the project • Determine that the implemented solution addresses the project's and associated program objectives • Determine quality control and quality assurance activities are performed in accordance with quality management plan; participate in quality planning, assurance, and control • Communicate project status to CDPH Management, Executive Sponsors, and External Stakeholders, as needed • Attends the ESC Meetings • Escalate project issues to the ESC that can't be resolved at the lower level • Monitor planning, execution, and control of activities necessary to support implementation of the CCRS • Provide leadership to state staff assigned to manage

Project Team Role	Responsibility
	project teams • Coordinate and monitor project charter, plan, and performance • Facilitate and approve internal and external Service Level Agreements (SLAs) • Attend recurring steering committee meetings • Participate in identification, quantification, and mitigation of project risks • Hold contractor responsible to deliverables defined in the SOW
Project Manager	• Make daily decisions based on direction provided by the Project Director or when changes are within the agreed-upon the delegated authority. • Ensure that other Stakeholders have opportunities to provide advice regarding pending decisions. • Communicate with the Project Director regarding decisions made. • Escalate issues for resolution to the Project Director when they are outside the Project Manager's span of control. • Monitor risks and issues to make sure that matters are appropriately referred for decision on a timely basis. • Attends the ESC Meetings • Escalate project issues to the ESC that can't be resolved at the lower level •
Executive Steering Committee (ESC)	• Attends the ESC Meetings • Escalate project issues to the ESC that can't be resolved at the lower level • Provide advice to the Project Sponsor and recommendations regarding any pending decisions. • Monitor risks and issues to ensure matters are appropriately considered for decision on a timely basis.

Project Team Role	Responsibility
Business Owner	• Make daily decisions regarding business aspects of the project as requirements are defined and design is developed. • Provide timely analysis and recommendations regarding issues that require decisions by the Project Manager, Project Director, or the Project Sponsor. • Escalate issues to the attention of the Project Manager and the Project Owner when the decision impacts the project more broadly.
IT Sponsor	Provide input to project decisions related to technologies the project will employ.
Department of Technology	• Approve projects when initiated. • conduct IT procurements. • Approve IT contracts and related amendment decisions. • Provide ongoing project support and oversight.
Department of Finance	• Approve project resources, via a Budget Change Proposal or Spring Finance Letter, for inclusion in the sponsoring organization's budget. • Advocate for the budget request before the Legislature. • Must review and approve contract changes that result in additional project costs. • Prepare a notification of changes to contracts for the Legislature, per Section 11.00 of the Budget Act.

Project Team Role	Responsibility
External Stakeholders	Provide advice regarding issues that are the subject of pending decisions.
Security Operations	Required to support the single-sign on option. State staff to provide technical knowledge to contractor and provide technical configuration to state's systems.
Database Administrators	To provide direction on data definitions, data schemas, etc. State staff to provide technical knowledge to contractor and provide technical configuration to state's systems.
Enterprise Architect	To confirm alignment with the CPHD architecture direction, and sign-off on design deliverables. State staff to provide technical knowledge to contractor and provide technical configuration to state's systems.
Infrastructure Support	To support establishment of communication interfaces. State staff to provide technical knowledge to contractor and provide technical configuration to state's systems.

2.4. REQUIREMENTS

System Acceptance for the September 30, 2020 start of production system operations is achieved by successful completion of the Phase 1 tasks and milestones defined in the project work plan.

2.5. CONTRACTOR HOSTED FACILITY ENVIRONMENT

1. The CCRS solution shall be hosted by the contractor on both a private and commercial public cloud infrastructure. The contractor's CCRS solution will be built on broadly used cloud services to collect data throughout the State and store such data within a single repository for analysis and reporting purposes.

2. The contractor's cloud solution must use standard cloud computing service models including Software as a Service (SaaS), Infrastructure as a Service (IaaS), Platform as a Service (PaaS) with Cloud features such as:

a) Availability
b) Reliability
c) Seamless Integration
d) Faster Deployment
e) Scalability & Elasticity
f) Regularly Delivered Vendor-Managed Updates
g) Security
h) Predictable Total Cost of Ownership

3. The cloud solution must support Data as a Service (DaaS) to deliver data storage, integration, processing and/or analytics services via a network connection
4. Application components of the Contractor's CCRS solution meet all applicable security and privacy requirements. The ODX component of the Contractor's solution currently operates in their Private Cloud environment and has been certified to meet HITRUST standards. All security and privacy requirements including certification(s) shall be maintained throughout the life of the contract
5. The contractor shall develop the Software as a Service (SaaS) solution based on the Cloud Computing Special Provisions for Software as a Service and SaaS General Provisions, Effective (03/15/18, and 06, 07,19), which can be found at the following URL:

   Information Technology SaaS General Provisions

   Information Technology SaaS Special Provisions

6. The contractor's solution must comply with NIST SP800-53R4, NIST SP800-63 security requirements or equivalent framework
7. The contractor's solution must be hosted on FEDRAMP certified cloud or comparably secure cloud
8. The contractor's solution must provide Rapid Elasticity based on NIST 800-145 standards
9. The solution must offer operation and maintenance support for an end to end managed cloud services

10. The contractors cloud solution will align to State CDT's Cloud First policy ((State Administrative Manual Section 4983). Please refer to these documents:

https://cdt.ca.gov/wp-content/uploads/2017/03/TL-14-04-Cloud-Computing-Policy.pdf

https://www.dgsapps.dgs.ca.gov/documents/sam/SamPrint/new/sam_master/sam_master_File/chap4800/4819.2.pdf

2.6. DESIGN, DEVELOPMENT, CONFIGURATION AND IMPLEMENTATION PERIOD

The Contractor must complete design, development, configuration, and implementation (DDCI) of the CCRS System in accordance with the CCRS Requirements and the tasks and deliverables included in the approved project work plan. The DDCI period includes Final System Acceptance.

2.7. PRIMARY TASKS

The Contractor shall comply with the following primary tasks:

1. Project Management;
2. Development, System Integration, Testing, and Implementation; and
3. Post Implementation Support Tasks (including System Acceptance, Help Desk Support, and Maintenance and Operations)
4. Documentation of overall architecture, governance and the above tasks

Descriptions of each group are provided below.

The State, with the assistance of the Contractor, will determine the scope, sequence, and timing of WOAs as they relate to the execution of tasks described in this section.

2.8. PROJECT MANAGEMENT TASKS

The SOW tasks and the deliverables required from the Contractor for Project Management are defined in the following tables. These tasks comprise a set of activities and deliverables for which the Contractor is responsible, and an updated System Development Plan that will identify the Contractor's approach to developing and/or configuring the solution to meet the California COVID Reporting System (CCRS) solution needs. It is the intent, and a requirement within this SOW, that the Contractor shall use the System Development Plan deliverable-defined processes to develop and implement the solution.

Additionally, the California COVID Reporting System (CCRS) Project will create a set of project management plans that the State of California Department of Public Health will use to manage the California COVID Reporting System (CCRS) Project. The Contractor work with the State to align its project management plan to these plans when the State has created its project management plans. Contractor will include the activities from these plans (e.g., attend risk management meetings), as described in the requirements, below, in its Project Schedule.

2.9. PROJECT MANAGEMENT

The State of California Department of Public Health is managing the project; however, the Contractor must proactively manage its responsibilities. The State of California Department of Public Health is requiring the Contractor to perform the following identified project management tasks and create and submit specified Project Management artifacts for the State of California Department of Public Health California COVID Reporting System (CCRS) Project.

1. The Contractor shall update and deliver its proposed **System Development Plan**.
2. The Contractor shall update and deliver its proposed **Project Schedule**.

- The Contractor shall update its project schedule weekly and deliver the **Bi-Weekly Schedule Update** to State of California Department of Public Health in a format approved by CDPH and the Contractor by the first working day of the subsequent

week a **Weekly Status Report.** And by the fifth (5th) State business day of each month, the Contractor shall submit a **Monthly Status Report.** Both reports shall identify:

- Summary of work completed showing actual versus planned;
- Contractor tasks completed with supporting narrative;
- Contractor tasks in progress with supporting narrative;
- Contractor tasks planned for upcoming period with supporting narrative;
- Status of issues mutually assigned to the Contractor that are rated high and medium;
- Status of risks mutually assigned to the Contractor that are rated high and medium;
- Vacancy of contractor's team members, by position;
- Plan to fill vacancies more than 15 business days vacant;
- Inventory of opened and closed change requests mutually assigned to the Contractor; and
- Other items as mutually agreed to by the Contractor and the State.

3. The Contractor shall participate in other project meetings as needed.
4. The Contractor shall provide input for presentations and briefings as needed.

2.10. DEVELOPMENT, SYSTEM INTEGRATION, TESTING, AND IMPLEMENTATION TASKS

The SOW Implementation Tasks include all work efforts to define, configure, test, and implement the California COVID Reporting System (CCRS) solution using an agile methodology.

The State is requiring the Contractor to configure and implement the California COVID Reporting System (CCRS) solution as a SaaS solution. Therefore, the State is requiring specific deliverables to be developed, submitted, and approved. The following SOW requirements identify the tasks required for the Contractor to perform.

2.10.1. DELIVERABLE EXPECTATION DOCUMENT

Prior to initiating development of each Contractor Deliverable, the Contractor must prepare a DED and obtain the State's approval for such DED. The State review period for the DED shall be no less than three (3) calendar days during Phase 1 and no less than ten (10) business days during Phase 2.

The DED's goal is to ensure a common understanding exists between the State and the Contractor regarding the scope, format, and content (depth and breadth) of the Deliverable prior to the Contractor beginning work on the Deliverable. The complexity of the DED will be proportional to the complexity of the Deliverable. The DED must summarize the key content of the Deliverable including, where appropriate, checklists, key figures, diagrams and tables. All DEDs are themselves a Deliverable and due for delivery to the state in accordance with the terms of the Agreement. Formal DED approval shall occur in accordance with the Deliverable Acceptance Document (DAD) process below. The Contractor, at Contractor's risk, may proceed with Contractor Deliverable preparation prior to DED approval.

2.10.2. DELIVERABLE ACCEPTANCE OR REJECTION

The State will approve the final deliverable based on the DED using the Deliverable Acceptance Document (DAD). The Contractor may not change a deliverable that has been accepted by the State without the State's approval.

1. The State will be responsible for reviewing and approving in writing, each work product and deliverable including but not limited to plans, designs, drawings and reports using the State's DAD. The State will be the sole judge of the acceptability of all work performed and all work products produced by the Contractor as required in this Agreement.
2. Should the work performed, or the Deliverables produced by the Contractor fail to meet State conditions, requirements, specifications, guidelines, or other applicable standards as identified in the Agreement, the following resolution process will be employed, except as superseded by other binding processes:
3. The State will notify the Contractor in writing within twelve (12) State business days after completion of each deliverable of any acceptance problems by identifying the specific inadequacies and/or failures in the services performed and/or the products produced by the Contractor, unless Contractor and the State have mutually agreed to a different review period for the DED
4. If the State has identified inadequacies and/or failures, the Contractor must, within five (5) State business days after problem notification, respond to the State by submitting a detailed explanation describing precisely how the identified services and/or products adhere to and satisfy all applicable requirements, or submit a proposed corrective action plan to address the specific inadequacies and/or failures in the identified services and/or products. Failure by the Contractor to respond to the State's problem notification within the required time limits may result in immediate termination of the Agreement.

The State may, at its discretion, allow a longer period than the five (5) State business days in consideration of the scope of the change.

5. The State will, within five (5) State business days after receipt of the Contractor's detailed explanation or proposed corrective action plan, notify the Contractor in writing whether it accepts or rejects the explanation orcorrection action plan. If the State rejects the explanation or the corrective action plan, the Contractor must submit a revised corrective action plan within three (3) State Business Days of notification of the rejection. Failure by the Contractor to respond to State notification of the rejection by submitting a revised corrective action plan within the required time limits may result in immediate termination of the Agreement.
6. The State will, within three (3) State Business Days of receipt of therevised corrective action plan, notify the Contractor in writing whether it accepts or rejects the revised corrective action plan proposed by the Contractor. Rejection of the revised corrective action plan may result in immediate termination of the Agreement.
7. Lack of response on the part of the State does not constitute Acceptance of any Deliverable.

2.11. BUSINESS PROCESS DEVELOPMENT TASKS

The objectives of the Business Process Development tasks are for the State to gain a clear understanding of the overall business process and sub- processes for the California COVID Reporting System (CCRS) Solution. The Business Process Development tasks require the Contractor to conduct a Fit-Gap Analysis between State law and the existing SaaS product that will serve as the basis of the California COVID Reporting System (CCRS) solution. Next, the Contractor will participate in a Joint Application Design (JAD) session with the State to refine and expand on the proposed high-level business processes and sub-processes. The need is to obtain concurrence from the programs for each process, sub-process, and the associated steps.

Although the State's programs and the Contractor agree to the processes and sub-processes prior to developing the user stories, it is not intended that all processes and sub-processes must be defined, reviewed, and concurred with prior to defining any of the user stories required in the Product Backlog Elaboration. The Contractor's development methodology in the System Development Plan may expand upon an individual process and associated sub-processes. The Contractor will then proceed with developing user stories for the selected process and sub-processes in an iterative-type approach. However, it is important that the Contractor documents all the business

processes and sub-processes in the required Business Processes Document throughout the Agile development.

2.12. TEST AND REMEDIATION SUPPORT TASKS

The objective of the Test and Remediation Support Tasks is to provide testing and remediation support for the California COVID Reporting System (CCRS) solution.
A Test Plan will be developed as part of Phase 1 activities and will include standard test cycles to confirm successful implementation of the CCSR prior to the September 30, 2020 deadline.
Given the compressed timeline for Phase 1 of the project, the following assumptions apply to testing:

- During UAT, Contractor will provide an audit, balance, and control report to confirm that all data inputs are accounted for through input and output processes.
- During UAT, the State will validate data quality through reporting provided by Contractor's data ingestion and enrichment processes.
- Testing activities, including UAT will likely occur in parallel as individual components of the solution are implemented. This is necessary to complete comprehensive testing within Phase 1.
- State will define the specific roles required to complete UAT so that role-based access controls can be implemented in time to support testing.
- State will participate in review and approval of test scripts according to the timeframes defined in the approved project work plan.
- State agrees to perform UAT activities within the timeframes defined in the final, approved project work plan.
- Unless explicitly approved in writing by CDPH, Contractor may not use production data during testing and development.

2.13. GO-LIVE TASKS

The Contractor's project work plan will include the tasks required to achieve the migration of data inputs, processing of data, implementation of the CCRS Data Warehouse, external access to data, and training as described in this Statement of Work, and to meet the September 30, 2020 implementation milestones.

2.14. Implementation Services

1. The Contractor must lead the implementation project schedule management effort by developing and managing the schedules used to report progress and monitor risk

from all stakeholders and advising management of implementation Readiness issues.

2. Contractor must develop, deliver, maintain, and execute an Implementation Plan, in accordance with the Deliverables section.
3. Contractor must turn over all materials necessary to transfer knowledge to the State consistent with the Contractor's implementation strategy and execution.
4. Contractor must coordinate and collaborate with the State Implementation
5. Team, other contractors, to support end-users throughout the life of the contract.
6. Contractor must develop and deliver implementation resources (tools, templates, reference materials) to the State.

2.15. USER MANAGEMENT

1. The objective of User Management is to have all State-identified user accounts established and maintained during the development and implementation.
2. The Contractor shall be responsible for establishing a process by which access is granted at various levels according to the user's role and permissions. The state and contractor will mutually establish which levels each party will be responsible for and then held accountable for adding, deleting, and suspending users of the CCRS solution.
3. The Contractor shall perform other user management functions such as the assignment of roles, initial passwords, password resets, etc. The solution must enable data Stewards to define data access policies and provision access in a self-service manner. The solution must provide a web interface to manage a Role-Based Access Control (RBAC) in SaaS Cloud. The solution must enable a user with permissions to grant access to another user.
4. The solution must authenticate users at login time according to accepted two-factor authentication standards and security rules.
5. The contractor's staff shall offer training to State on how to manage users and grant access based on roles and permissions.
6. The solution must be able to support various functional user roles such as Data Scientists, Data Analysts, Data Stewards, Program analysts, Program planners, etc. The solution must be able to manage user roles for different categories of users who will be the end-users of the solution:
    1. Executive-level state employees will be viewing the platform.
    2. State program staff from other state departments

2.16. POST-IMPLEMENTATION SUPPORT TASKS

The objective of Post-Implementation Support Tasks is to define the tasks that are required during the System Acceptance period and the Maintenance and Operations (M&O) period of the contract. For M&O, the Contractor is responsible for all the configurations, customizations and interfaces in creating the California COVID Reporting System (CCRS) solution.

2.17. SYSTEM ACCEPTANCE TASKS

1. "System Acceptance" is defined as achieving a period of stability for thirty (30) consecutive calendar days upon completing implementation release and of each major phase (or release) as defined in the approved Project Schedule ("Acceptance Period"). Stability is defined as having the production system operating without any Critical or Major Deficiencies during the Acceptance Period. For the purposes of system acceptance, Critical or Major Deficiencies must be attributed to Contractor scope of responsibility or under direct control of the Contractor. Should this type of defect occur, the thirty 30-day clock will restart upon the defect being resolved by the Contractor, the fix being successfully migrated to production, and accepted by CDPH.
2. The Contractor shall not receive System Acceptance from the State until all System Acceptance Criteria identified the approved implementation Plan have been met and approved by the State. System Acceptance Criteria includes:
    1. Technical Training and Knowledge Transfer Completion Report
    2. Post-Implementation Assessment Report
    3. All requirements have been met and delivered, tested and documented in the Requirements Traceability Matrix
    4. System Software and Documentation
    5. Defects resolved in accordance with the CCRS Implementation Plan
    6. Revised Requirements Traceability Matrix
    7. Final release to production without incident as agreed upon with the State
    8. Written State approval of System Acceptance
    9. Contractor shall coordinate resolution with the State's Project Director for any areas that do not pass testing and coordinate re-testing of all related and affected areas of the system, as determined by the State.
    10. Contractor shall provide the State with a State accepted "Transition" period after the "Go-Live" to ensure that the system is bug-free and

stable.

11. System “Go-Live” will occur on the first business day after the Parties have certified the system is ready for use on September 30, 2020, based on the standards and performance identified in the project work plan.

2.18. WARRANTY / MAINTENANCE AND OPERATIONS (M&O)

1. Warranty / Maintenance and Operations (M&O) **Warranty.** The Warranty Period shall commence upon acceptance of the last major phase (or release) as defined in the Approved Project Schedule. Maintenance and Operations. The Statement of Work (SOW) tasks and the deliverables required from the Contractor for the Warranty / M&O period are defined in the following tables. These tasks comprise a set of activities and deliverables for which the Contractor is responsible and result in an updated M&O Plan that will identify the Contractor’s approach to maintaining and/or configuring the solution to meet the CDPH needs once in production. This requires the Contractor to use the processes defined in the M&O Plan deliverable for all post-implementation changes to the solution through the remaining life of the contract.
2. Maintenance and Operations will commence upon System Acceptance and the “Go Live” event. During M&O, it is anticipated that the Contractor shall maintain adequate staffing levels, as approved by the State, to perform updates, resolve problems, make changes to improve efficiencies, etc. and continue to implement new functionality throughout the life of the contract as prioritized and mutually agreed. Should the Contractor need to change any part of the Solution that has achieved System Acceptance and is therefore under the State’s control, the Contractor must obtain the State’s approval prior to any change being made. Deficiency resolution will be performed at the Contractor’s own expense for all Deficiencies that are covered under Warranty as specified above.
3. Since the Contractor is providing a cloud SaaS solution where the CCRS solution is providing a service to the State stakeholders, Service Level Agreements (SLA) are critical for ensuring that the provided service meets the needs of the stakeholders and applies appropriate penalties should the service fall below contractually established thresholds. Service Level Agreements (SLA) are defined to objectively measure and report adherence to the threshold values and to invoke the mutually agreed upon contractual penalties for failing to provide the required levels of service.

4. Agreed-upon SLAs will be in effect at the go-live date for Phase 1 as identified in the final project work plan.

2.19. KNOWLEDGE TRANSFER

1. The contractor shall be responsible for assisting with Organizational Change Management and providing all required training to internal trainers (train-the-trainer) based on the contractor's implementation approach.
2. During the Term of the Contract, the Contractor shall conduct knowledge transfer activities with the State to prepare State staff to assume management of the system development framework for future system improvements. Knowledge transfer includes:

- Deduplication and ingestion of data
- Management of data quality business rules and other system and application settings required to manage data quality
- Establishing queries for custom analytics
- Data Management
- User access management
- User interface management
- Dashboard management
- User Support management and procedures
- Management of Cloud and on-premises systems, sub-systems, and applications
- Database management and related sub-systems and procedures
- Management and configuration of analytical/reporting systems
- Business glossary, data dictionary, and schema, and data models for all databases
- Management and configuration of data transfers, interfaces and data exchanges
- Backup procedures and disaster recovery configuration
- Documentation of the overall system architecture including Logical View, Development View, Process View, Physical View, and Use Case/Scenario View

2.20. FINAL SYSTEM ACCEPTANCE

1. Contractor shall close the Project (Phase 1 implementation of the CCRS solution) in accordance with the Project Close-Out Plan.
2. Contractor shall meet with the State two (2) weeks prior to the scheduled end of Project to confirm all Project Close-out
   Acceptance Criteria as identified in the Implementation Plan. The State will approve the criteria.
3. Contractor shall provide the State a Final Project Report to report on and

confirm completion of the Project and Project close-out tasks.

4. The Contractor shall not receive Project and Contract Close- out approval from the State until all Project Close-out Acceptance Criteria identified in the Implementation Plan have been met and approved by the State. Project Close-out Acceptance Criteria includes:
5. Written State approval of System Acceptance
6. Written State approval for all Deliverables and final revisions of Deliverables
7. Written State approval of the Final Project Report
8. Written State approval of Project Close-out
9. At the onset of the Project Close-Out Period, the Contractor shall include Project Close-Out status reporting in the Weekly Status Report. The Project Close-Out portion of the Weekly Project Status Report shall include, at a minimum, a description of the progress made on each Task, Deliverable, and/ or Milestone, including any variance from the baseline.
10. The State will work closely with the Contractor during this process and must approve all updates to the Contractor's Project Close-Out approach and plans prior to starting Maintenance and Operations.
11. Contractor shall maintain key staff as identified in the Section 5: Contractor Roles and Responsibilities to satisfy and maintain compliance.
12. The system is operating in a manner meeting all the Functional and Non-functional Requirements of this Contract.

2.21. Maintenance and Operation

1. As part of this Agreement, Contractor will continue to provide the necessary resources to support lab data transmission to CCRS by establishing up to 392 direct connections (as stated in Section 2.1.6)
    - As of February 11, 2021, Contractor has completed 27 direct-to-CCRS connections
    - The parties will monitor progress toward completion of the migration of the Rhapsody labs to CCRS on a monthly basis. The State will provide written confirmation to the Contractor when the remaining 365 are deemed complete..
2. Contractor will continue to support the State’s needs for establishing direct connections to CCRS for new lab submitters.
3. Contractor will provide full-time resources to support the Lab Data Integration team and will be engaged in the current processes of Lab Outreach, Lab Onboarding, and Lab Data Quality Improvements.
4. The State will work with the Contractor to determine laboratories prioritized for onboarding.

5. Contractor will provide weekly reporting of labs migrated from Rhapsody and New Labs
    - # Connections (total live)
    - # Connections and their CLIA (total live)
    - # Connections actively involved in CCRS onboarding
    - Weekly Message Counts for CCRS direct connection, CDPH Rhapsody connection and total.
    - Labs requiring escalation support by the State.
6. Lab Onboarding Target goals
    - 100% of the daily ELR message volume received through CCRS Direct Connect by August 2021
    - 100% of existing CSV submitters directly connected to CCRS by August 2021
    - 100% of new or migrating CSV submitters be added to “ODX CSV Automation Process CLIA lookup table” and configured in CCRS Production within three (3) business days from request from the State
    - 100% of new submitters contacted for a kick-off call within three (3) business days from their initial inquiry
7. Contractor will continue to provide technical support for the Data Warehouse, including trouble-shooting and incident resolution; ad hoc data loads; end-user account management; service management; infrastructure management; capacity management; performance management; backup support; and security management.
8. Contractor’s Program Analytics team oversees CCRS data quality and performance metrics, lab engagement, trend analytics and data tracking. This includes the development of additional CCRS operational dashboards.
9. Contractor’s Technical Application Command Center (TACC) supports a 24/7 help desk and incident management and will
    - Partner with the State to provide incident reporting and outage communication.
10. Contractor’s Maintenance and Operations (M&O) team will:
    - Publish TACC and M&O dashboards consistent with agreed upon SLAs.
    - Coordinate deployment activities with release management and CCRS application owners.
    - Manage release and deployment communication.
11. Contractor’s CCRS Technical Development and Solution Optimization team leads and coordinates new and exploratory development and provides technical oversight to CCRS applications and systems.

- Any system enhancements shall be completed by Contractor Any requests to allocate additional resources must be approved in advance through the WOA process.

3. CONTRACTOR PERSONNEL

Please refer to table Contractor Key Staff Roles and Responsibilities in Section 2.3

3.1. KEY STAFF MANDATORY QUALIFICATIONS

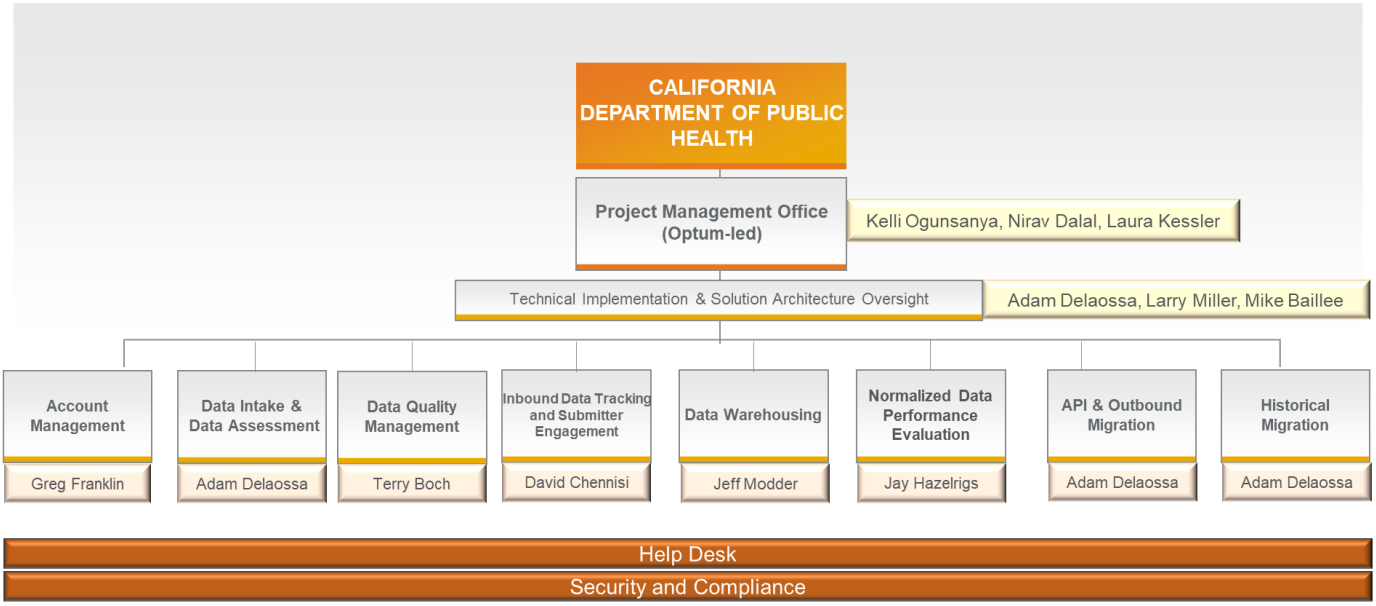
The Contractor must provide Key Personnel as described below. For purposes of this Contract, the term “Key Personnel” refers to Contractor personnel deemed by CDPH to be essential to the Contractor’s satisfactory performance of the requirements contained in this Contract. Please note that all listed Key Personnel are expected to be available through all implementation phases.

Key Personnel are identified below. One (1) individual can serve in more than one (1) role if: (a) the Contractor can demonstrate that the individual can successfully carry out all responsibilities within the identified time-frame and the project quality and success will not be impacted; and (b) CDPH provides prior approval.

The Sharing of roles is NOT allowed for the following Key Personnel:

8. Account Manager,
9. Regional General Manager
10. PMO Manager.
11. Enterprise Architect

In addition to key staff, Contractor will provide necessary staffing to support the implementation and ongoing operations of the CCRS. Contractor staff will be aligned according to individual work streams, with leads assigned over each work stream. The following chart identifies the work streams and leaders associated with each.



3.2. KEY STAFF REPLACEMENT

The Contractor must commit to the continuing availability and participation of the staff filling the Key Staff roles, to the extent of the Contractor's control, for the duration of the Project or for their proposed period of involvement (as defined in the master project schedule).

Except in the case of a leave of absence, sickness, death, retirement, termination or resignation of employment or association, or leaving Contractor's employment and not serving as a consultant or contractor to Contractor, or other circumstances outside the reasonable control of Contractor, the individuals designated to fill any of the Key Staff roles in Contractor's Response shall not be removed by Contractor from performing their assigned tasks during the period of performance for each such individual, as described in the Contractor's Response, without the prior written approval of State.

The State of California Department of Public Health recognizes that a resignation or other events may cause Contractor Project team members to be unavailable. The State of CCRS Project Director shall approve or deny all the Contractor's proposed replacement project team members designated to fill any one of the Key Staff roles. Any of these proposed replacement staff must have the same or higher-level skills and experience as those requirements stated in the Agreement.

The steps to replace Key Staff members are as follows:

12. If a Key Staff member notifies the Contractor that they will be leaving the project, the Contractor must notify the Project Manager or designee within two (2) State business days after being notified by the Key Staff member.

13. The Contractor must provide qualified replacement personnel within ten (10) State business days from notification from Key Staff. The Contractor will submit its request to the State of California Department of Public Health and the resume(s) for the proposed replacement staff possessing the experience which meets the Key Staff requirements of this Agreement for the Key Staff role being replaced.
14. The proposed replacement staff must have the same or higher-level skills and experience as the person leaving the Project. The State reserves the right to validate the proposed replacement staff references and/or interview the proposed replacement staff prior to approving their participation on the Project. The California COVID Reporting System (CCRS) Project Manager or designee has up to five (5) State business days to approve or disapprove the selected replacement.
15. The candidate receiving Acceptance by the State shall be available to start immediately unless otherwise agreed to by the State.
16. The billable rate for the replacement key staff shall not exceed the billable rate of the key staff that is leaving.
17. All key staff including substitutes must complete all require State security and confidentiality agreements prior to performing the service.
18. An amendment to the Agreement is not required for Contractor Key Staff changes.

4. UNANTICIPATED TASKS

1. In the event that additional work shall be performed which was wholly unanticipated and is not specified in the SOW but which in the opinion of both parties is necessary to the successful accomplishment of the general scope of work outlined, the procedures outlined in this Section will be employed.
2. For each item of unanticipated work not specified in the SOW, a WOA will be prepared.
3. It is understood and agreed by both parties to this contract that all the terms and conditions of this Contract shall remain in force with the inclusion of any such WOA. Such WOA shall in no way constitute a Contract other than as provided pursuant to this Contract nor in any way amend or supersede any of the other provisions of this Contract.
4. Each WOA shall consist of a detailed statement of the purpose, objective, or goals to be undertaken by the contractor, including:
    - The job classification(s) or approximate skill level(s) of the personnel to be assigned available by the contractor,
    - An identification of all significant material to be developed by the

Contractor and delivered to the State of California Department of Public Health,

- An identification of all significant materials to be delivered by the State of California Department of Public Health, to the contractor,
- An estimated time schedule for the provisions of these services by the contractor,
- Completion criteria for the work to be performed,
- The name or identification of the Contractor personnel to be assigned,
- The Contractor's estimated work hours required to accomplish the purpose, objective or goals, and
- The Contractor's billing rates per work hour, and the contractor's estimated total cost of the WOA.

5. All WOAs shall be in writing prior to beginning work and signed by the Contractor and the CDPH. The Contractor shall not begin work on a WOA until the authorized CDPH, staff (Staff Counsel, IT Acquisitions Manager, and CDPH, Contract Official) and the Contractor have approved the WOA.
6. The CDPH has the right to require the Contractor to stop or suspend work on any WOA pursuant to the “Stop Work” provision of the General Provisions.
7. Personnel resources will not be expended (at a cost to the CCRS on task accomplishment in excess of estimated work hours required unless the procedure below is followed:
8. If, in the performance of the work, the Contractor determines that a WOA to be performed under this Contract cannot be accomplished within the estimated work hours, the Contractor will immediately notify the CDPH, in writing of the Contractor's estimate of the work hours, which will be required to complete the WOA in full. Upon receipt of such notification, the CDPH may:
9. Authorize the Contractor to expend the estimated additional work hours or service in excess of the original estimate necessary to accomplish the WOA (such an authorization not unreasonably to be withheld), or
10. Terminate the WOA, or
11. Alter the scope of the WOA in order to define tasks that can be accomplished within the remaining estimated work hours.
12. The CDPH, will notify the Contractor in writing of its election within seven
13. (7) calendar days after receipt of the Contractor's notification. If notice of the election is given to proceed, the Contractor may expend the estimated additional work hours or services. The CDPH, agrees to reimburse the Contractor for such additional work hours, in accordance with the terms of the

WOA.

5. DATA HANDLING & SECURITY POLICIES

1. The contractor's solution must provide storage for at least two million (2,000,000) case records and twenty million (20,000,000) lab records at initial implementation.
2. The contractor's solution must accommodate storage for growth in the number of client records with the ability to scale faster in Phase 2. The solution must be able to accommodate the volume increase which is estimated to double every 30 – 60 days.
3. The contractor's solution must comply with all federal and state laws pertaining to receipt, storage, and disclosure of PII (Personally Identifiable Information) and PHI (personal health information), including, but not limited to, the Information Practices Act of 1977 and HIPAA (Health Insurance Portability and Accountability Act) standards.
4. Application components of the Contractor's CCRS solution meet all applicable security and privacy requirements. The ODX component of the Contractor's solution currently operates in their Private Cloud environment and has been certified to meet HITRUST standards.
5. The contractor shall develop the Software as a Service (SaaS) solution based on the Cloud Computing Special Provisions for Software as a Service and SaaS General Provisions, Effective (03/15/18, and 06, 07,19), which can be found at the following URL:
    - Information Technology SaaS General Provisions
    - Information Technology SaaS Special Provisions
6. The contractor's solution must comply with NIST SP800-53R4, NIST SP800-63 security requirements or equivalent framework
7. The contractor's solution must provide Rapid Elasticity based on NIST 800-145 standards
8. The contractor's solution must comply with FIPS 140-2 Encryption standards
9. The contractor's solution must comply with State of California Information Security Policies, Standards and Procedures outlined in State Administrative Manual Chapter 5300.
10. The contractor's solution must operate and function according to section 508 standards for web content as appropriate

5.1. SECURITY POLICIES

The Contractor and subcontractor personnel must adhere to the following security policies:

1. California Department of Technology CDT Information Security.

6. CONFLICT RESOLUTION

The parties shall use their best, good faith efforts to cooperatively resolve conflicts and problems informally that arise in connection with this Agreement, pursuant to this Section and as provided in the General Provisions – Information Technology (SaaS GP, Provision 35, Disputes). Both parties shall continue without delay to carry out all their respective responsibilities under this Agreement while attempting to resolve the conflict under this Section.

7. SERVICE LEVEL AGREEMENTS

7.1. For Phase 1: (Implementation)

- Upon approval of the baselined project work plan, deliverables in the work plan, and the associated timeline, form the basis for the implementation SLA. Contractor shall deliver these key deliverables for Phase 1 go-live:
  - Completion of historical data migration
  - Development of interface connections necessary to support the single connection supporting Phase 1 data transfers.
  - Processing of normalized data and implementation of data dashboard
  - Implementation of File Management Process
  - Implementation of data warehouse

7.2. For Phase 2 and also Maintenance and Operation: (Start of Operations)

- CCRS will be available 24 x 7, except for pre-approved downtime for maintenance, 99.9% of the time.
- Return to Operations (RTO) of the CCRS is less than 24 hours.
- Recovery Point Objective (RPO) of the CCRS is one hour.
- Setup, development, testing, and delivery of Redirection of direct connection interface to one or more of the 392 data providers will be completed within 2-3 weeks.
- For new direct connect interface, setup, development, testing, and delivery will be completed in six (6) weeks (subject to data provider's preparedness and cooperation)
- Backup retention – at least one year with option of extending (in ODX, the

original messages are retained for 30-days, and processed data is retained during the term of the contract. In Snowflake, time-travel capability is available for 90 days; Contractor is providing pricing to support additional data backups to support backup retention of data for one year. Backup approach is weekly for the previous four weeks and monthly prior to that. Upon termination of contract, backups are transferred to the State.)

- Response time for issues reported to the Help Desk. Based on the priority assigned to each reported issue, Contractor agrees to the following response times:
    - Priority 1: within two business hours
    - Priority 2: within six business hours
    - Priority 3: within 12 business hours
    - Priority 4: within 24 business hours

8. LIQUIDATED DAMAGES

Liquidated Damages are intended to encourage timely completion of critical project milestones and the provision of reliable and responsive services from the Contractor. The purpose of this Liquidated Damages provision is to ensure adherence to the requirements of the Agreement and to set an amount in advance of contractual non- compliance to compensate the State of California Department of Public Health for damages that are impractical or extremely difficult to estimate, but which would be sustained by the State of California Department of Public Health in the event the Contractor fails to perform services as agreed. The Liquidated Damages are intended to be a reasonable estimate of the damages and costs the State of California Department of Public Health would sustain as a result of non-compliance to the terms of the Contract. These amounts are not punitive. The State of California Department of Public Health and Contractor, therefore, agree that in the event the Contractor fails to perform certain agreed-upon services in a timely manner as specified in the agreed to Service Level Agreements, the State of California Department of Public Health may assess Contractor such amounts as Liquidated Damages, and not as a penalty.

8.1. LIQUIDATED DAMAGE CAP

If imposed, Liquidated Damages will not exceed (ten percent (10%)) of the base Agreement Amount.

8.2. PAYMENT OF LIQUIDATED DAMAGES

The State of California Department of Public Health may deduct Liquidated Damages

from Contractor's fees as earned or may assess such Liquidated Damage fees by a separate invoice at any time or as part of standard monthly invoicing during the Agreement or within (thirty (30) days) after the Agreement ends. The State will notify the Contractor Representative (see Table Contract Representatives) in writing of any claim for Liquidated Damages pursuant to this section on or before the date the State deducts such sums from money payable to the Contractor. If the State of California Department of Public Health imposes Liquidated Damages, upon notification by the State of California Department of Public Health, the Contractor shall show the Liquidated Damages as a subtracted item from its invoice(s) to the State of California Department of Public Health.

Imposition of Liquidated Damages does not constitute a waiver of the State's right to issue a Stop Work Order, as provided in Provision 36 Stop Work of the SaaS GP or to terminate the Agreement pursuant to Provision 17 Termination for Default of the SaaS GP. In the event of such a termination, the State shall be entitled at its discretion to recover actual damages caused by the Contractor's failure to perform its obligations under this Agreement.

8.3. CALCULATION OF LIQUIDATED DAMAGES

For each month the Contractor's performance falls below the SLA, the Contractor shall provide the State a credit in the amount of $4,909.93 **(note: Table 8.3.1-Calculations of Liquidated Damages, total of table's "Cost per Day")** per business day that did not meet the SLA. The total Liquidated Damages shall not exceed ten percent (10%) of the sum of the Base Contract Term. The Liquidated Damages is equivalent to one day of State effort as defined in the following table.

Figure 8.3.1

Classification	***FTE's***	***Burdened Labor Rate***	***Total FTE Burdened Labor Rate***	***Cost per Day***
IT Manager I	*1*	*$138.51*	*$138.51*	*$1,108.11*
IT Spec II	*1*	*$128.94*	*$128.94*	*$1,031.53*

IT Spec I	*2*	*$121.06*	*$242.12*	*$1,936.96*
IT Assoc	*1*	*$104.17*	*$104.17*	*$ 833.33*
Total Cost per day $4,909.93				

9. WORK ORDER AUTHORIZATION

Both parties agree that this engagement shall remain as deliverable based contract with services as deemed necessary by the State. But as the COVID-19 environment is constantly changing, the Work Order Authorization (WOA) process will be used throughout the Term of this Agreement to execute services as necessary to ensure a successful engagement.

The Contractor, with the State's assistance, shall complete a WOA for approval by the State as the first step for any Tasks, Activities, and/or Work Product within this Agreement. The parties will mutually agree ahead of time on change specifications and acceptance criteria, which the Contractor shall document in writing in a WOA. The WOA addresses all components required by this Agreement and further defines, in writing, any changes mutually agreed upon during meetings and planning sessions.

The Contractor shall provide tasks to the State Project Manager by the due date specified in the approved WOA, unless the State has granted written permission, by way of an amended WOA, to deviate from the schedule. WOAs shall be comprehensive in the level of detail and quality, be professional in presentation, and consistent in style and quality. If a document is a composite work of many people within the Contractor's organization, the document is edited for style and consistency.

9.1. Contractor shall prepare a WOA using Exhibit 6: Work Order Authorization (WOA) document.

9.2. Is it understood and agreed upon by both parties that all of the terms and conditions of this Agreement shall remain in full force, regardless of the inclusion of any subsequent WOA. Subsequent WOAs shall in no way constitute a separate Agreement, nor in any way amend or supersede any of the provisions of this Agreement.

9.3. Each WOA shall consist of a detailed statement of the purpose, objective, and/or goals to be undertaken by the Contractor, including, but not limited to the:

- Identification of all significant material to be developed by the Contractor and delivered to State;
- Identification of all significant materials to be delivered by State to the Contractor;
- Estimated time schedule of the provision of services by the Contractor;
- Costs for the provision of services to be completed by the Contractor;
- Acceptance criteria for the work to be performed; and
- Estimated number of work hours required to accomplish the purpose, objective and/or goals; and
- Contractor's billing rates as identified in Exhibit 3: Cost Worksheet, and the Contractor's estimated total cost for each job required to perform services identified in the WOA.

9.4. All WOAs must be in writing and signed by the Contractor and State. The Contractor shall not begin work on a WOA until the authorized State staff has approved the WOA.

9.5. The State has the right to require the Contractor to stop or suspend work on any WOA.

9.6. If in the performance of the work, the Contractor determines that a WOA to be performed under this Agreement cannot be accomplished within estimated work hours, the Contractor shall immediately notify the State, in writing, of the Contractor's estimate of additional work hours and cost which are required to complete the WOA in full. Upon receipt of the notification, the State will:

- Authorize the Contractor to expend the estimated additional work hours or service in excess of the original estimate necessary to accomplish the work; or
- Terminate the WOA; or
- Alter the scope of the WOA in order to define tasks that can be accomplished within the remaining estimated cost.
- Notify the Contractor in writing of its decision within three (3) calendar days after receipt of the notification.
- Completion of each WOA is subject to State approval, as described in Section 15, Work Order Authorization Acceptance or Rejection, below.

10. WORK ORDER AUTHORIZATION ACCEPTANCE OR REJECTION

All concluded work shall be submitted for review and acceptance or rejection to the State Project Manager on a Work Order Authorization Acceptance Document (WAD) (see Exhibit 7: Work Order Authorization Acceptance Document). The Contractor shall provide the State Project Manager, or his/her designee, with a WAD upon successful completion of the work identified in an approved WOA. If the acceptance criteria of the approved WOA has been met, the Contractor and State Project Manager, or his/her designee, signs the WAD. Signed acceptance through the use of the WAD process is required before processing an invoice for payment.

11. ESCROW SOURCE CODE

The Contractor agrees to provide a mutually agreeable third-party source code escrow account in which the current CCRS solution source code is available to the State for inspection at any time.

To protect the State investment during the design, development, implementation, and operational phases, the source code must be placed in escrow and the Contractor is required to maintain, at the Contractor's expense, a source code escrow account for the CCRS solution for non-COTS Contractor-provided solution components through a third-party vendor. The source code in escrow must be kept current by refreshing the source code while under development and in conjunction with major software upgrades or product releases.

CDPH has the right to audit the products kept in escrow during regular business hours upon sufficient notice to the Contractor and Escrow Company.

The Contractor shall submit evidence of the source code and documentation source material (the software build instructions, programming documentation, configuration information, and any other documentation used by the Contractor's programmers to understand the source code or to develop, compile, maintain, or update the software) deposited with an Escrow Entity to the CDPH within 30 calendar days of the Agreement Effective Date, in accordance with the following:

- The Contractor agrees to deposit a copy of the source code of the proprietary software product(s) used in the implementation, operation and maintenance support with documentation of the system with a mutually acceptable third-party escrow company during the term of the Agreement.
- The Contractor agrees to deposit a copy of the original and modified third-party proprietary software source code if any of the original third-party source code has been modified to meet the requirements of this SOW and resulting contract.
- The Contractor's third-party escrow company shall be located within the continental United States.
- The Contractor guarantees that it will place a copy of a revised or additional software source code and documentation with the escrow company within five (5) business days after the Contractor makes changes or additions to the software.
- The CDPH shall be entitled to receive a copy of such software source code in the event that the Contractor has ceased all business activities, is no longer in business or has filed for bankruptcy protection.

12. INSURANCE

12.1. Commercial General Liability

The Contractor shall maintain general liability with limits of not less than $1,000,000 per occurrence for bodily injury and property damage liability combined. The policy shall include coverage for liabilities arising out of premises, operations, independent Contractors, products, completed operations, personal and advertising injury, and liability assumed under an insured Contract. This insurance shall apply separately to each insured against whom a claim is made, or suit is brought subject to the Contractor's limit of liability.

The policy must include the State of California, its officers, agents, employees and servants as an additional insured, but only insofar as the operations under the Contract are concerned.

The Contractor must furnish insurance certificate(s) evidencing required insurance coverage acceptable to the State, including endorsements showing the State as an

"additional insured" if required under the Contract. Any required endorsements requested by the State must be separately provided; merely referring to such coverage on the certificates(s) is insufficient for this purpose. When performing work on state-owned or controlled property, Contractor shall provide a waiver of subrogation in favor of the State for its workers' compensation policy.

The Prime Contractor shall agree to furnish the State satisfactory evidence of insurance within ten (10) calendar days of Contract award.

12.2. Technology Professional Liability / Errors and Omissions Insurance

The Contractor shall maintain appropriate coverage to the Contractor's profession and work hereunder, with limits not less than $10,000,000 per claim and aggregate. Coverage shall be sufficiently broad to respond to the duties and obligations as is undertaken by the Contractor in this agreement and shall include, but not be limited to, claims involving infringement of intellectual property, copyright, trademark, invasion of privacy violations, information theft, release of private information, extortion and network security. The policy shall provide coverage for breach response costs as well as regulatory civil fines and penalties as well as credit monitoring expenses with limits sufficient to respond to these obligations.

a) The Policy shall include, or be endorsed to include *property damage liability coverage* for damage to, alteration of, loss of, or destruction of electronic data and/or information "property" of the Agency in the care, custody, or control of the Contractor. If not covered under the Contractor's liability policy, such "property" coverage of the Agency may be endorsed onto the Contractor's Cyber Liability Policy as covered property as follows:
b) Cyber Liability coverage in an amount sufficient to cover the full replacement value of damage to, alteration of, loss of, or destruction of electronic data and/ or information "property" of the Agency that will be in the care, custody, or control of Contractor, including, but not limited to, losses caused by employees or subcontractors of Contractor, and cost to restore the data and/ or information, as determined by the State.
c) If the policies provide claims-made coverage, the following additional terms shall apply:
d) The Retroactive Date must be shown and must be before the date of the contract or the beginning of contract work, whichever occurs first.
e) Insurance must be maintained, and evidence of insurance must be provided for at least three (3) years after completion of the contract of work.

f) If coverage is canceled or non-renewed, and not replaced with another claims-made policy form with a Retroactive Date prior to the contract effective date, the Contractor must purchase “extended reporting” coverage for a minimum of three (3) years after completion of work.

12.3. Cyber Liability Insurance

The Contractor shall maintain Cyber Liability with limits of not less than $10,000,000 per claim and aggregate. Covering claims involving notification costs, privacy violations, information theft, damage to or destruction of electronic information, intentional and/ or unintentional release of private information, and alteration of electronic information, extortion, and network security.

13. MODIFICATIONS AND CLARIFICATIONS TO SAAS SPECIAL PROVISIONS

The SaaS Special Provisions shall be modified and clarified as provide below. Except as modified in this section of the SOW, all other provisions of the SaaS Special Provisions shall remain unchanged.

13.1. Section 1. Definitions

The definition of “Data Breach” is further clarified as follows in Section 1(e) “Data Breach” - means any access, destruction, loss, theft, use, modification or disclosure of Data by an unauthorized party or that is in violation of Contract terms and/or applicable state or federal law. “Disclosure” means the release, transfer, provision of, access to, divulging in any manner of information outside the entity holding the information.

13.2. Section 4. SaaS and Data Security

The following language shall supersede the provisions set forth in Section 4(a)(2)(ii) – Contractor shall comply with NIST 800-53 Moderate Level. When Personal Data or other confidential information is no longer needed, the contract has terminated, or any retention period has expired, it must be sanitized. All electronic or physical forms of CDPH PHI, PI, and/or other confidential information must be sanitized using NIST Special Publication 800-88 standard methods for data sanitization.

13.3. Section 9. Data Breach

The provisions in Section 9 Data Breach shall apply to Data Breach as defined and Security Incident.

For notification purposes “Security Incident” means –

i. an attempted breach; or

ii. the attempted unauthorized access or disclosure, modification or destruction of the State's data, in violation of any state or federal law or in a manner not permitted under the Contract; or

iii. the attempted or destruction of, or interference with, Contractor's system operations in an information technology system, that negatively impacts the confidentiality, availability or integrity of State data; or

iv. any event that is reasonably believed to have compromised the confidentiality, integrity, or availability of an information asset, system, process, data storage, or transmission. Furthermore, an information security incident may also include an event that constitutes a violation or imminent threat of violation of information security policies or procedures, including acceptable use policies.

v. Security Incident does not include pings or false positives.

Notification of a Data Breach or Security Incident shall be provided to -

CDPH Program Contract Manager	**CDPH Privacy Officer**	**CDPH Chief Information Security Officer**
See the Scope of Work exhibit for Program Contract Manager	Privacy Officer Privacy Office Office of Legal Services California Dept. of Public Health 1415 L Street, 5th Floor Sacramento, CA 95814 Email: privacy@cdph.ca.gov Telephone: (877) 421-9634	Chief Information Security Officer Information Security Office California Dept. of Public Health P.O. Box 997377 MS6302 Sacramento, CA 95899-7413 Email: cdphiso@cdph.ca.gov Telephone: (855) 500-0016

14. MODIFICATIONS AND CLARIFICATIONS TO SAAS GENERAL PROVISIONS

14.1. Section 1. Definitions

Section 1(s)(i) - The definition of "Non-Public Data" is clarified as follows: Non-Public Data means data submitted to the Service Provider, other than Personal Data, that is not subject to distribution to the public as public information. It is deemed to be sensitive and confidential by the State because it contains information that may be exempt by statute, regulation, or policy from access by general public as public information. : "Confidential information" means information that:

- does not meet the definition of "public records" set forth in California Government Code section 6252(e), or is exempt from disclosure under any of the provisions of Section 6250, et seq. of the California Government Code or any other applicable state or federal laws; or

- is contained in documents, files, folders, books or records that are clearly labeled, marked or designated with the word "confidential" by CDPH.

14.2. Section 37. Examination and Audit

The following clarification shall apply to the provisions of Section 37. Any Contractor proprietary of confidential information disclosed to the State as part of any audit shall be handled by the State in accordance with Section 31, Protection of Proprietary Software and other Proprietary Data.

Workstream	Description	Pricing Factors	Type	One-Time	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13	Month 14	Month 15	Month 16	Month 17	Month 18	TOTAL
Program Management					Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-21		
Program Management	Project leadership to ensure project coordination	FTEs	Professional Services		$394,876	$330,599	$330,599	$330,599	$50,000	$50,000	$297,539	$297,539	$297,539	$297,539	$297,539	$297,539	$165,285	$165,285	$165,285	$165,285	$165,285	$165,285	$4,263,620
TOTAL:				$0	$394,876	$330,599	$330,599	$330,599	$50,000	$50,000	$297,539	$297,539	$297,539	$297,539	$297,539	$297,539	$165,285	$165,285	$165,285	$165,285	$165,285	$165,285	$4,263,620
Data Intake / Data Quality																							
Historical Data Load	Intake of historical data to ODX	Setup, configuration and tuning	Professional Services		$324,800																		$324,800
ODX Enterprise Data Acquisition	Mapping of data for ODX and Diameter consumption with data source coming from 392 data suppliers.	Interfaces, data acquisition, and mapping of data for ODX & Diameter. 392 direct interfaces can be redirected during the life of this agreement at no additional cost.	Professional Services		$3,757,015																		$3,757,015
ODX Enterprise Data Acquisition	Expantion and pursuit of net new data providers and support of CDPH directed initiatives (i.e. SAFE, QHIOs)	Interfaces, data acquisition, and mapping of data.	Professional Services								$337,992	$337,992	$337,992	$337,992									$1,351,969
Onboarding	Build State to Optum connections (Big Pipe)	Big Pipe	Professional Services		$11,281																		$11,281
ODX Build	Hardening of ability between EIS to end solution, including Diameter	Development and Engineering FTEs	Professional Services		$1,627,480																		$1,627,480
ODX Non-Labor Fee	ODX and Diameter per transaction fee	volume transaction fee 150,001 - 300,000: $0.056	Professional Services			$414,404	$414,404	$414,404	$414,404	$414,404	$414,404	$414,404	$414,404	$414,404	$414,404	$414,404	$414,404	$414,404	$414,404	$414,404	$414,404	$414,404	$7,044,868
	Rates for additional daily transaction volume	300,001 - 600,000: $0.054 600,001 - 1,200,000: $0.048									$427,800	$427,800	$427,800	$427,800	$427,800	$427,800	$427,800	$427,800	$427,800	$427,800	$427,800	$427,800	$5,133,600
	Build and map new interface with new data supplier on private connection	393 - 500: $8,826 501 - 2,000: $8,201																					
TOTAL:				$0	$5,720,576	$414,404	$414,404	$414,404	$414,404	$414,404	$1,180,196	$1,180,196	$1,180,196	$1,180,196	$842,204	$842,204	$842,204	$842,204	$842,204	$842,204	$842,204	$842,204	$19,251,013

Workstream	Description	Pricing Factors	Type	One-Time	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13	Month 14	Month 15	Month 16	Month 17	Month 18	TOTAL
Data Warehouse																							
Technical Support	Labor for build and maintenance	FTE	Professional Services		$667,941	$181,336	$181,336	$181,336	$181,336	$181,336	$106,853	$106,853	$106,853	$106,853	$106,853	$106,853	$106,853	$106,853	$106,853	$106,853	$106,853	$106,853	$2,856,862
Compute/Storage/support (20TB for storage, 42,000 credit Compute usage)	Non-labor fee for Data Warehouse	Snowflake, Security and Operations	License and Professional Services		$147,623	$147,623	$147,623	$147,623	$147,623	$147,623	$132,861	$132,861	$132,861	$132,861	$132,861	$132,861	$132,861	$132,861	$132,861	$132,861	$132,861	$132,861	$2,480,066
Implement Additional Backup Capability	Labor to implement backup capability	FTE	Professional Services		$90,045																		$90,045
Additional Backup Capability (673 TB current capacity) excess will be added in tiered pricing	Non-labor cost for backup capability	Additional backup capacity beyond 673 TB at $45 per TB per Month	Professional Services		$900	$900	$900	$900	$900	$900	$900	$900	$900	$900	$900	$900	$900	$900	$900	$900	$900	$900	$16,200
Additional Snowflake Storage Capacity		Additional storage capacity beyond 20 TB at $33 per TB per Month																					
Additional Snowflake Compute Usage		Additional compute usage beyond 42,000 credits																					
TOTAL:				$0	$906,509	$329,859	$329,859	$329,859	$329,859	$329,859	$240,614	$240,614	$240,614	$240,614	$240,614	$240,614	$240,614	$240,614	$240,614	$240,614	$240,614	$240,614	$5,443,173
Help Desk																							
Help Desk Support	Level 1, 2, 3 support	FTE	Professional Services		$0	$71,428	$71,428	$71,428	$71,428	$71,428	$71,428	$71,428	$71,428	$71,428	$71,428	$71,428	$71,428	$71,428	$71,428	$71,428	$71,428	$71,428	$1,214,276
											$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
TOTAL:				$0	$0	$71,428	$71,428	$71,428	$71,428	$71,428	$71,428	$71,428	$71,428	$71,428	$71,428	$71,428	$71,428	$71,428	$71,428	$71,428	$71,428	$71,428	$1,214,276
Training																							
																							$0
Training Support	Creation of materials, scheduling, delivery, train the trainer	FTE	Professional Services		$132,079	$132,079																	$264,158
		allocate pool for training to be accessed when needed, not fixed during the first two months.																					
TOTAL:				$0	$132,079	$132,079	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$264,158
Inbound Data Tracking / Case Data Tracking																							
Lab Outreach / Data Quality Support	Fixed price based on interaction with up to 400 submitters.	FTE	Professional Services		$67,917	$67,917	$67,917	$67,917			$124,290	$124,290	$124,290	$124,290	$124,290	$124,290	$100,051	$100,051	$100,051	$100,051	$100,051	$100,051	$1,617,717
File Management	Automated file management	File Management System	Professional Services	$1,991,440																			$1,991,440
Additional Lab Support		Actual effort associated with this interaction activity will be reviewed regularly with the State and validated against the assumptions of this work Additional support for Lab Outreach and Data Quality support can be provided to the State via a WOA and using a per hour rate card of $145 for									$92,800	$92,800	$92,800	$92,800	$92,800	$92,800							$556,800
TOTAL:				$1,991,440	$67,917	$67,917	$67,917	$67,917	$0	$0	$217,090	$217,090	$217,090	$217,090	$217,090	$217,090	$100,051	$100,051	$100,051	$100,051	$100,051	$100,051	$4,165,957

Workstream	Description	Pricing Factors	Type	One-Time	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13	Month 14	Month 15	Month 16	Month 17	Month 18	TOTAL
Program Analytics																							
Program Analytics (Data Tracking)											$60,055	$60,055	$60,055	$60,055	$60,055	$60,055	$60,055	$60,055	$60,055	$60,055	$60,055	$60,055	$720,665
TOTAL:				$0	$0	$0	$0	$0	$0	$0	$60,055	$60,055	$60,055	$60,055	$60,055	$60,055	$60,055	$60,055	$60,055	$60,055	$60,055	$60,055	$720,665
GRAND TOTALs for each month:				$ 1,991,440	$ 7,221,957	$ 1,346,286	$ 1,214,207	$ 1,214,207	$ 865,691	$ 865,691	$ 2,066,923	$ 2,066,923	$ 2,066,923	$ 2,066,923	$ 1,728,931	$ 1,728,931	$ 1,479,638	$ 1,479,638	$ 1,479,638	$ 1,479,638	$ 1,479,638	$ 1,479,638	$ 35,322,862
Initial Contract - 18 months (20-10650)(Cumulative each month)	Initial Over Time			$ 1,991,440	$ 9,213,397	$ 10,559,683	##########	##########	$ 13,853,788	**$ 14,719,479**	##########	##########	$ 20,920,248	$ 22,987,171	$ 24,716,101	$ 26,445,032	$ 27,924,670	$ 29,404,309	$ 30,883,947	$ 32,363,585	$ 33,843,223	$ 35,322,862	**$ 35,322,862**
				Phase 1						**Total 6 mo.**													**Total 18 mo.**
WOA 3 - Lab Outreach	Additional Costs								$ 162,400	$ 162,400													$ 324,800
WOA 4 - Datawarehouse Pool	Additional Costs						$ 59,160	$ 59,160	$ 59,160	$ 59,160													$ 236,640
Volumes-Transactions over 150,000 from WOAs and Detail Transactions Tabs	Additional Costs					$ 32,479	$ 136,396	$ 370,646	$ 383,400	$ 427,800													$ 1,350,721
WOA 8 - Read only view ODX ELR Data	Additional Costs					$ -		$ 65,872															$ 65,872
WOA 9 - Data Warehouse write capabilities	Additional Costs							$ 66,000					$ -	$ -	$ -	$ -							$ 66,000
WOA 11 - Additional Optum Support for Lab Data Integration										$ 92,800													$ 92,800
Program Management									$ 280,599	$ 280,599													$ 561,198
Scrum Team											$ 249,600	$ 249,600	$ 249,600	$ 249,600	$ 249,600	$ 249,600	$ 249,600	$ 249,600	$ 249,600	$ 249,600	$ 249,600	$ 249,600	$ 2,995,200
Monthly Totals: 18 months	**Additional Cost Totals**			$ -	$ -	$ 32,479	$ 195,556	$ 561,678	$ 885,559	$ 1,022,759	$ 249,600	$ 249,600	$ 249,600	$ 249,600	$ 249,600	$ 249,600	$ 249,600	$ 249,600	$ 249,600	$ 249,600	$ 249,600	$ 249,600	**$ 5,693,231**
Grand Totals for each month : 18 months	**Adding rows 46 and 58**		**Totals**	1,991,440	7,221,957	1,378,765	$ 1,409,763	$ 1,775,885	$ 1,751,250	$ 1,888,450	$ 2,316,523	$ 2,316,523	$ 2,316,523	$ 2,316,523	$ 1,978,531	$ 1,978,531	$ 1,729,238	$ 1,729,238	$ 1,729,238	$ 1,729,238	$ 1,729,238	$ 1,729,238	**$ 41,016,093**
Contract Amendment- 18 months (20-10650)(Cumulative each month)				1,991,440	9,213,397	10,592,162	##########	##########	$ 15,529,060	**$ 17,417,510**	##########	##########	$ 24,367,079	$ 26,683,602	$ 28,662,132	**$ 30,640,663**	$ 32,369,901	$ 34,099,140	$ 35,828,378	$ 37,557,616	$ 39,286,854	$ 41,016,093	**$ 41,016,093**

Note:

Functional Area	Optum Role Information	Hourly Rate by Role
Project Management	Contract Lead	$338
	Workstream Lead	$194
	Project Manager	$257
	Technical Analyst	$175
	Business Analyst	$145
	Analyst	$131
Data Warehouse	Workstream Lead	$194
	Technical Arch	$175
	Database Engineer	$162
Help Desk	Workstream Lead	$70
	Help Desk	$70
Training	Trainer	$118
CCRS Lab Onboarding and Outreach	Workstream Lead	$163
	Lab Onboarding Consultant	$114
CCRS Program Analytics	Workstream Lead	$163
	Analytics Consultant	$101

			FTE	Monthly Rate
Scrum Team	Workstream Lead-Scrum team	$230	1.0	$36,800
	ODX Enterprise Data Acquisition	$200	0.4	$12,800
	Help Desk Support	$70	0.7	$7,840
	Training Support	$118	0.7	$13,216
	Lab Outreach/Data Quality Support	$123	2.0	$39,360
	Program Analytics (Data Tracking)	$121	1.0	$19,360
	DW Technical Architect--Scrum team	$186	2.0	$59,520
	Business Analyst	$145	1.0	$23,184
	Tester - QA	$97	0.5	$7,760
	DW Database Engineer--Scrum team	$186	1.0	$29,760
	Total		10.3	$249,600

Functional Area	Optum Role Information	Mar-21	Apr-21	May-21
Lab Data Integration--Lab Outreach/Data Quality	Workstream Lead-Lab Onboarding	0.13	0.13	0.13
Lab Data Integration--Lab Outreach/Data Quality	Workstream Lead-Lab Onboarding	1.00	1.00	1.00
Lab Data Integration--Lab Outreach/Data Quality	Lab Outreach Consultant	1.00	1.00	1.00
Lab Data Integration--Lab Onboarding	Lab Onboarding Consultant	1.00	1.00	1.00
Lab Data Integration--Lab Outreach/Data Quality	Lab Outreach Consultant	1.00	1.00	1.00
Lab Data Integration--Lab Onboarding	Lab Onboarding Consultant	1.00	1.00	1.00
Lab Data Integration--Lab Outreach/Data Quality	Lab Outreach Consultant	1.00	1.00	1.00
CCRS Maintenance & Operations	Workstream Lead-Help Desk	0.13	0.13	0.13
CCRS Maintenance & Operations	Help Desk Analyst	1.00	1.00	1.00
CCRS Maintenance & Operations	Help Desk Analyst	1.00	1.00	1.00
CCRS Maintenance & Operations	Help Desk Analyst	1.00	1.00	1.00
CCRS Maintenance & Operations	Help Desk Analyst	1.00	1.00	1.00
CCRS Maintenance & Operations	Help Desk Analyst	1.00	1.00	1.00
CCRS Maintenance & Operations	Help Desk Analyst	0.33	0.33	0.33
CCRS Maintenance & Operations	Help Desk Analyst	1.00	1.00	1.00
CCRS Maintenance & Operations	M&O Support Analyst	1.00	1.00	1.00
CCRS Maintenance & Operations	Workstream Lead--M&O	0.50	0.50	0.50
CCRS Maintenance & Operations	M&O Support Analyst	0.50	0.50	0.50
CCRS Program Analytics	Workstream Lead-Program Analytics	1.00	1.00	1.00
CCRS Program Analytics	Program Analytics Consultant	1.00	1.00	1.00
CCRS Program Analytics	Program Analytics Consultant	1.00	1.00	1.00
Lab Data Integration--Lab Direct Connection ODX)	Workstream Lead-ODX	1.00	1.00	1.00
Lab Data Integration--Lab Direct Connection ODX)	Business Analyst-Lab Outreach	1.00	1.00	1.00
Lab Data Integration--Lab Direct Connection ODX)	Business Analyst-Lab Outreach	1.00	1.00	1.00
Program Management	Contract Lead	0.75	0.75	0.75

Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22
0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
0.75	0.75	0.75	0.50	0.50	0.50	0.50	0.50	0.50

Functional Area	Optum Role Information	Mar-21	Apr-21	May-21
Program Management	Project Manager-PMO	1.00	1.00	1.00
Program Management	Director-PMO	0.13	0.13	0.13
Program Management	Deputy Director-PMO	1.00	1.00	1.00
Program Management	PMO Analyst	1.00	1.00	1.00
Technical Development	Workstream Lead: Deployment & Release Management	1.00	1.00	1.00
Technical Development	Workstream Lead-Data Warehouse	0.50	0.50	0.50
Technical Development	Core Technical Architect--Data Warehouse	0.50	0.50	0.50
Technical Development	Database Engineer-Data Warehouse	1.00	1.00	1.00
Technical Development	Database Engineer-Data Warehouse	1.00	1.00	1.00
Technical Development	Database Engineer--Data Warehouse	1.00	1.00	1.00
Technical Development	Workstream Lead-Security	1.00	1.00	1.00
Technical Development	Workstream Lead-Scrum team	1.00	1.00	1.00
Technical Development	ODX - Scrum Team	0.40	0.40	0.40
Technical Development	Help Desk Support - Scrum Team	0.70	0.70	0.70
Technical Development	Training Support -Scrum Team	0.70	0.70	0.70
Technical Development	Lab Outreach/Data Quality Support - Scrum Team	2.00	2.00	2.00
Technical Development	Program Analytics (Data Tracking) - Scrum Team	1.00	1.00	1.00
Technical Development	Technical Architect--Scrum team	2.00	2.00	2.00
Technical Development	Business Analyst-Scrum	1.00	1.00	1.00
Technical Development	QA Tester - Scrum	0.50	0.50	0.50
Technical Development	Database Engineer--Scrum team	1.00	1.00	1.00
Technical Development	Workstream Lead: Deployment & Release Management	1.00	1.00	1.00
Training	Trainer	0.15	0.15	1.05

Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22
1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1.00	1.00	0.65	0.65	0.65	0.65	0.65	0.65	0.65
0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
0.15	0.15	1.05	0.15	0.15	1.05	0.15	0.15	1.05